FAA Aviation News

AVIATION SAFETY FROM COVER TO COVER

MARCH/APRIL 2005

SUN 'N FUN® 2005

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of Transportation

Federal Aviation Administration

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BACK COVER Editor's Runway

FRONT COVER: Using colored wands, an FAA Air Traffic Controller directs a departing aircraft to the active runway at Sun 'n Fun 2004. (H. Dean Chamberlain photo)

BACK COVER: We believe this is a Just Aircraft Escapade. *The photograph was taken at Sun 'n Fun 2004. (H. Dean Chamberlain photo)*

An FAA controller directs this classic Piper Cub pass his control point to one of the active runways so the Cub can depart Lakeland. With literally dozens of aircraft being taxied to staggered takeoff positions on parallel runways by controllers on the ground using visual signals, pilots must be careful not only to follow directions, but they must avoid hitting any of the controllers working the taxiways and runways

SUN 'N FUN® 2005 FLY—IN

story and photos by H. Dean Chamberlain

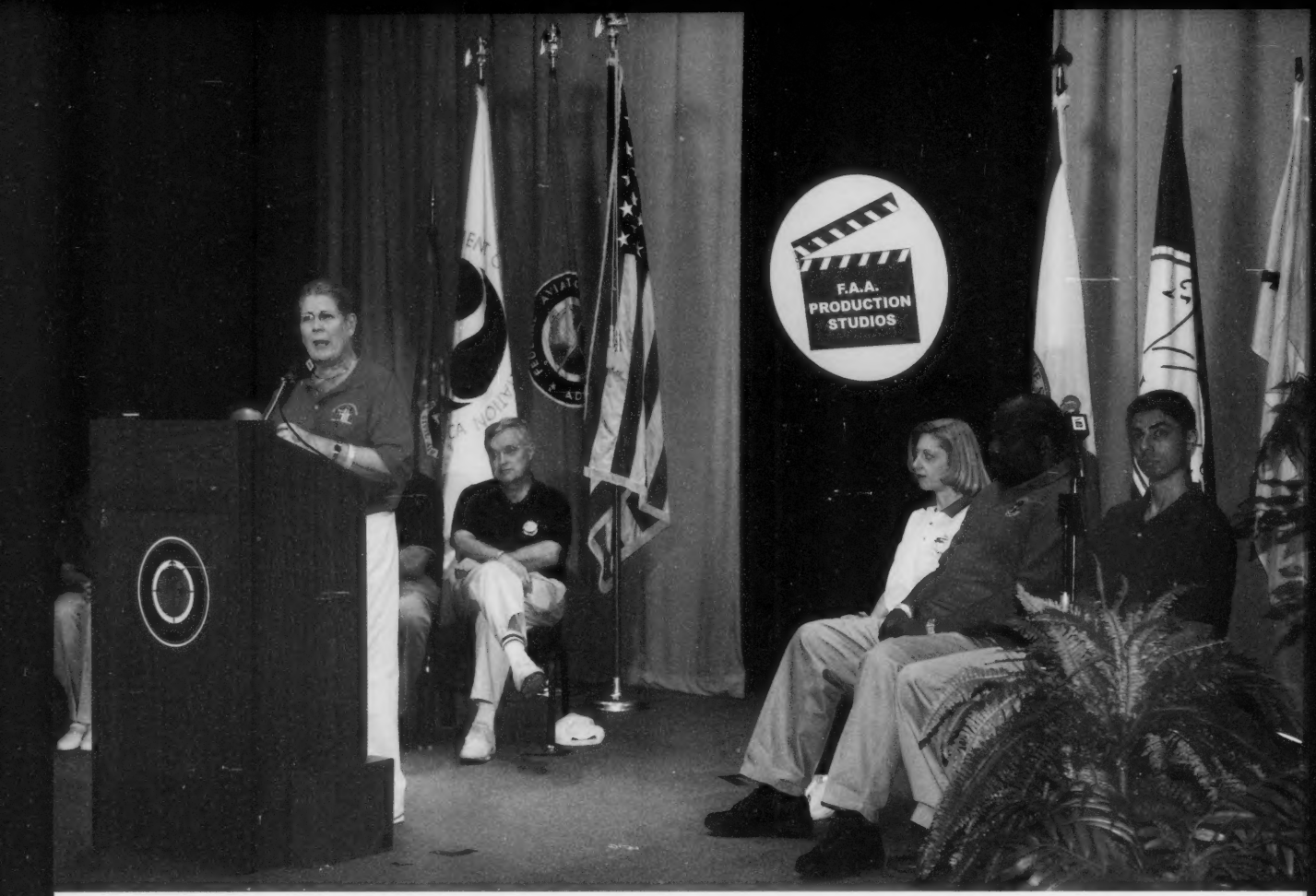
The dates for the 31st annual Sun 'n Fun® EAA Fly-In in Lakeland, Florida, are April 12 through 18, 2005. These dates run from a Tuesday through Monday. As the first major aviation fly-in of the year, Sun 'n Fun has something for everyone. Second in size only to the Experimental Aircraft Association's AirVenture Oshkosh™ in Wisconsin, Sun 'n Fun includes a daily air show, safety seminars, aviation-related workshops, and more aircraft and aviation products on display for sale then anyone could possibly want. To paraphrase an old expression, if you can't find it at Sun 'n Fun, then you don't need it.

GOOD INFORMATION FOR EVERYONE

Although much of the information in this article is pilot and aircraft specific, we encourage pilots planning on flying to Sun 'n Fun to review the *Notice to Airmen* published February 17, 2005, for the event. We also want to remind everyone going to Sun 'n Fun of a few helpful suggestions.

First, if you have not made travel plans or lodging reservations, you need to do so quickly. You are running out of time to make them. A good source of information for Sun 'n Fun related events and the Lakeland area is the Sun 'n Fun Internet web site. The site includes information on buying tickets online to event schedules to how to volunteer to help at the Fly-In. The site is listed below.

Another good source for aviation safety related information is the FAA's Safety Center & Production Studio at Sun 'n Fun. During the Fly-In, the FAA



Southern Regional Administrator Carolyn Blum takes questions from the audience at the FAA's Safety Center during Sun 'n Fun 2004. A panel of FAA experts and managers wait to help answer the questions.

Safety Center will host a temporary non-automated Flight Service Station (FSS) so you can check the weather and file your flight plans. The dates and hours are from April 11 to 18 from 0600 to 1900 hours local. The temporary FSS will be open on April 19 from 0600 to 1400 hours local.

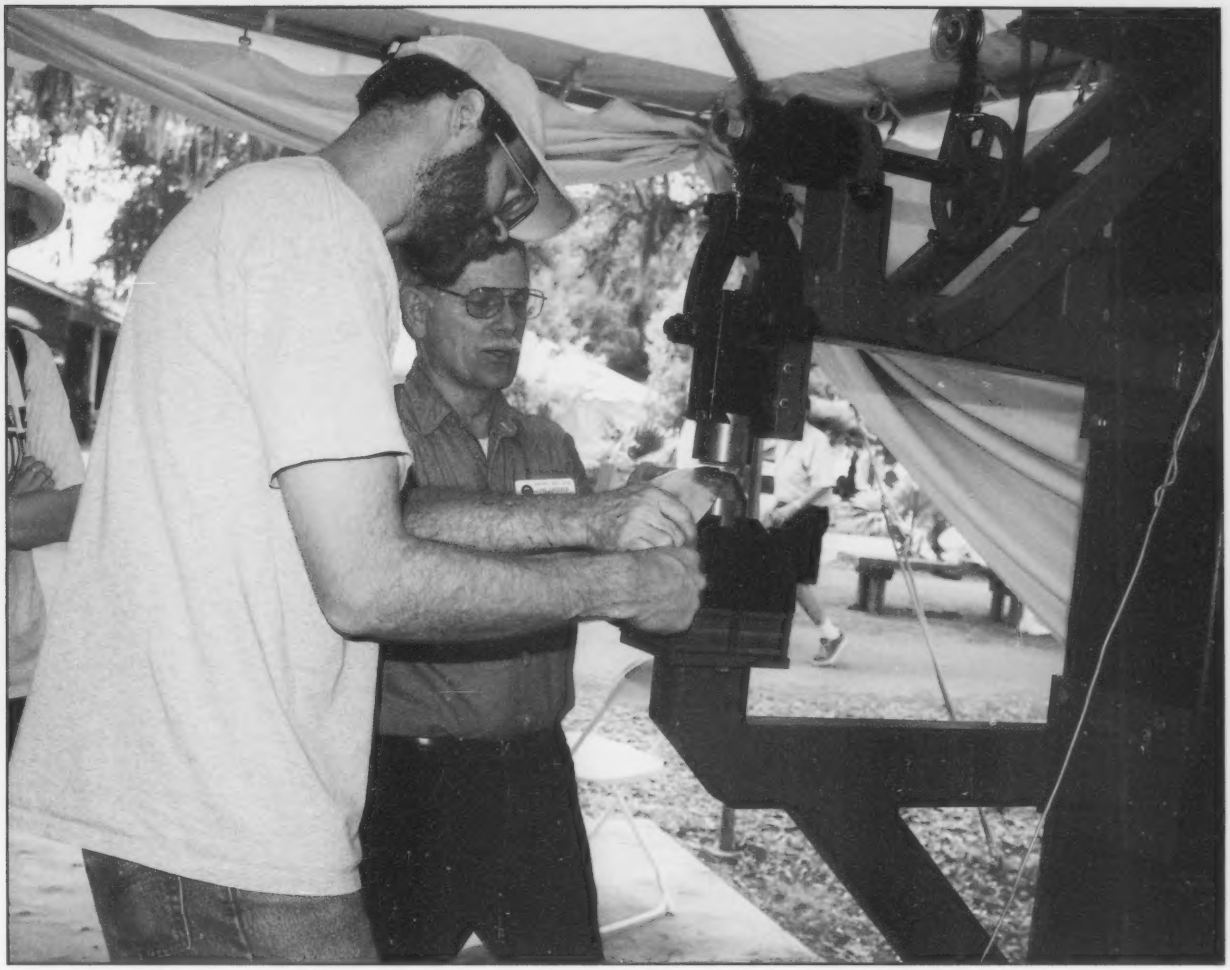
The FAA Safety Center will also house a temporary staff from the Orlando Flight Standards District Office (FSDO) to answer or resolve any FAA pilot or aircraft related issues you might have.

The FAA Safety Center also has a exhibition area with displays and FAA employees from various FAA organizations to not only show you what is new within the FAA, but the FAA staffers will also answer any questions you might have about their displays and programs.

Finally, no discussion about the FAA Safety Center would be complete without highlighting the Safety Forums presented by industry and FAA experts throughout the Sun ' n Fun week. This year's FAA Safety Center's Forum Schedule is shown on page 8. Please note, the schedule is subject to change. For those interested in a particular presentation, but who can't attend the meeting, the FAA Safety Center's presentations will be broadcast on the radio at 1510 on your AM dial. The Orlando FSDO Internet home page has the latest FAA Safety Center Forum Schedule. (See page 3 for web address.)

SUN 'N FUN NOTAM

As we say every year, if you are planning on flying to Lakeland Linder Regional (LAL) airport for the Fly-In or near central Florida during this period, you need to get a copy of the *Special Traffic Management Program Sun 'n Fun® EAA Fly-In Notice to Airmen* (NOTAM) for the event and study it in detail. You need to know what Air Traffic Control (ATC) expects you do when you get into the Lakeland area before you ever get near Lakeland. If you have never been in an aircraft flying into Lakeland during the Fly-In, you will not believe the number of aircraft in the air at the same time. Aircraft landing and taking off from LAL are separated by type and altitude with minimal radio communication. Your safety and the safety of the other pilots and those working on the ground depend upon everyone knowing, understanding, and complying with the NOTAM procedures. When you find



A Sun 'n Fun visitor gets a hands on lesson in aircraft metal working at one of the many educational workshop tents. Expert volunteers in most of the major aircraft construction techniques teach and demonstrate the right way to do things for aspiring aircraft builders.

yourself surrounded by nearby aircraft that is not the time to panic and do something dangerous or unexpected.

The NOTAM's effective dates are different from Sun 'n Fun's public dates. The NOTAM is effective only from 0700 to 2000 hours locally from April 10 through 18. Pilots flying to Lakeland and near Lakeland need to review the NOTAM's effective dates to ensure compliance with the air traffic procedures for the Fly-In. The NOTAM's procedures also effect air traffic flying in central Florida not landing at LAL. The NOTAM is available at the following Internet web sites: The Orlando Flight Standards District Office's web site at <http://www.faa.gov/fsdo/orl> and the Sun 'n Fun web site at <http://www.sun-n-fun.org/content/>. Sun 'n Fun's web site said the organization had a limited number of paper copies available by request through its web page.

The NOTAM has also been published in the *FAA's Notices To Airmen, Domestic/International*, February 17, 2005, issue. This published version is available at the following FAA Internet web site <http://www.faa.gov/NTAP/NTAP05FEB17>.

The following are excerpts from the NOTAM. This article only highlights select information from the NOTAM. Pilots are advised to check all available information as part of their flight planning process before departing for Lakeland. Because flight information and especially temporary flight restrictions are subject to last minute changes, pilots flying to Sun 'n Fun are encouraged to check for the latest NOTAM's before every take off.

LAKELAND LINDER REGIONAL AIRPORT MANAGER'S SPECIAL NOTICE

The following information taken from the NOTAM highlights special provisions for LAL during the effective times and dates of the NOTAM.

The control tower will be open and the Class D airspace will be in effect from 0630 to 2130 hours locally.

Do not operate in the Class D airspace south of the airport. This area

Air Traffic Controllers scan for inbound aircraft from the top of the Lakeland fire department's fire training building at Lake Parker. Used for training firefighters how to fight fires most of the year, during Sun 'n Fun, the building provides the controllers the perfect spot for getting inbound VFR traffic to Lakeland Linder Regional Airport established on the correct route to the airport.

is reserved for use by aircraft using other authorization and procedures.

Student training flights are highly discouraged during this event. This includes student solo cross-country flights, touch-and-go landings, low approaches, and practice instrument approaches.

Limited grass-field operations can be accommodated. See the NOTAM for complete details.

Tie downs are required. Pilots need to bring their own tie down gear.

The south side of the airport is closed from 1930 until 0630 hours locally from April 10 to 18, 2005.

RUNWAY AND AIRPORT CLOSURES

Runway 5/23 will be closed from April 8 through 20, 2005.

The ILS and NDB/GPS Runway 5 will be shut down April 8 through 20, 2005.

The VOR Runway 9 approach is not available from April 8 through 20, 2005.

Lakeland Linder Regional Airport will be closed daily from April 12 through 18, 2005, for the aerobatic demonstrations (air show). During these periods, the air show airspace area is from the surface to 10,000 feet MSL within a five-statue mile radius of the airport.

The published hours for the air show are from 1345 to 1730 hours local each day from April 12 through 18. On April 16, a night air show is also scheduled from 2000 to 2200 hours local.

Because of the number of aircraft departing LAL after the air show each day, arrival aircraft are not routinely accepted until 1800 hours local. According to the NOTAM, pilots should listen to the arrival ATIS (118.65 MHz) or the Lake Parker frequency on 124.5 MHz to determine when the airport is accepting arrivals.

GENERAL FLIGHT AND GROUND SAFETY TIPS

Do not make unnecessary radio transmissions when procedures clearly state to monitor the frequency only.

Rock your wings with "gusto" for airborne acknowledgements.

Be observant for red-shirted air traffic controllers giving hand signals for takeoff clearances and exiting runways.

After landing, do not stop on runways; expeditious clearing of the run-

A team of air traffic controllers working atop the Lakeland fire department's training tower at Lake Parker watch for inbound aircraft for the Lake Parker VFR arrival procedure. The Lake Parker Power Plant in the background is the entry point for the procedure.

way is essential.

Do not stand on, near, or walk across runways.

AREA SAFETY NOTICES

Parachute activity is possible at Zephyrhills Airport (ZPH) from sunrise to sunset up to an altitude of 13,500 feet MSL. Zephyrhills Airport is located 16.4 nautical miles (NM) northwest of Lakeland on the LAL VOR 332 degree radial.

Parachute activity is also possible at South Lakeland Airport (X49) located 3.5 NM southwest of Lakeland on the LAL VOR 206 degree radial.

The Tampa and Orlando Class B airspaces are in effect. Aircraft are to remain clear of these Class B airspaces unless authorized by ATC. The NOTAM outlines the procedure to be used for non-Mode C transponder equipped aircraft to operate in the two Mode C Veil areas from the period April 10 to 22, 2005. This procedure does not authorize such aircraft to enter the Class B airspace. The exception to the Mode C transponder requirement for operating within the Mode C Veil is outlined in Title 14 Code of Federal Regulations section 91.215 for those aircraft without electrical systems.

The NOTAM lists the various Flight Service Station frequencies in the region as well as procedures for filing and closing flight plans.

IFR SPECIAL TRAFFIC MANAGEMENT PROGRAM

There will be an IFR Special Traffic Management program in effect daily from Monday, April 11 through Tuesday, April 19, 2005, from 0700 to 1859 hours local. Slot reservations will be required for all domestic, non-scheduled IFR arrivals and departures to and from Lakeland Linder Regional Airport (LAL), Plant City Municipal Airport (PCM), Bartow Municipal Airport (BOW), Lake Wales Municipal Airport (X07), and Winter Haven Gilbert Airport (GIF). Slot reservations will be available beginning Friday, April 8 at 0700 hours local or 1100 hours UTC. Reservations will not be assigned more than 72 hours in advance. The NOTAM explains how to apply for a reservation as well as the procedures for using one.

MISCELLANEOUS NOTES AND COMMENTS

The NOTAM and the Orlando FSDO's web site for Sun 'n Fun both include aerial photographs of the

Lakeland area and the various traffic patterns developed for the Fly-In. The FSDO web site's photographs are in color. Some of the FSDO photographs can be enlarged to highlight certain terrain and landmark features. The photographs are a great navigational aid for those flying into the Fly-In for the first time.

The NOTAM asks pilots to make parking signs to help the ground crews direct your aircraft to the appropriate parking area. The NOTAM lists the specifications for the sign as well as the abbreviations to be used on the sign for the various parking areas.

The NOTAM outlines the arrival and departure procedures for the various types of aircraft expected at the Fly-In. From no-radio equipped aircraft to helicopters to ultralights to warbirds to seaplanes, there are specific instructions for each.

A waiver has been issued that permits ATC to reduce the minimum separations standards for category 1 and 2 aircraft. These are primarily single engine and light twin-engine aircraft.

Because of the number of aircraft landing and taking off from LAL and surrounding airports during Sun 'n Fun, pilots should carry enough fuel to meet the regulatory requirements plus extra fuel in case you have to hold because of congestion or an accident.

The NOTAM lists special instructions for filing and closing VFR flight plans. Pilots flying VFR to Lakeland need to review these special instructions.

A survival kit appropriate to the area you are flying from is recommend. Because of the seasonal change in weather this time of year, pilots need to be prepared for the unexpected.

To increase the visibility of each aircraft, pilots are asked to turn on their landing lights within 30 miles of Lakeland.

LAKE PARKER ARRIVAL PROCEDURES

All aircraft, except those with designated procedures such as ultralights and certain other types of aircraft, can expect to use the Lake Parker VFR arrival procedure. This includes IFR traffic when the ceiling at LAL is 3,000 feet and the visibility is five miles. All pilots need to review this procedure as part of their flight planning.

Pilots should check the LAL ATIS on 118.65 MHz for landing and special information 20 miles from Lakeland.

One of the published NOTAM's Lake Parker Arrival Procedure's pages (4-AS-8) has a reference for pilots to listen to the Lakeland ATIS on 118.65 MHz when 20 miles out. The 118.65 MHz frequency is the correct ATIS frequency to use during Sun 'n Fun. That page also includes a photograph showing the Lake Parker Power Plant, which is the entry point for the Lake Parker Arrival Procedure. The photograph includes a reference to listen to the Lakeland ATIS on 134.350 MHz. The 134.350 MHz frequency is incorrect. That frequency is not available. Pilots should use the 118.65 MHz frequency to monitor the Sun 'n Fun ATIS.

Aircraft flying the Lake Parker Arrival Procedure need to be aware that seaplanes will be operating in and out Lake Parker.

Pilots landing at LAL need to review which runways are in use at LAL and also the fact that displaced thresholds will be in use as well as designated multiple landing spots on the same runway.

Because aircraft operating at LAL during the dates of the NOTAM will be separated by type, speed, and altitude, pilots need to review their aircraft's specified altitude and speed. If there is any doubt about your ability to fly your aircraft at the designated airspeed, you need to immediately contact ATC. No one is expected to have an accident trying to maintain an unsafe airspeed. You may want to practice flying your aircraft at its minimum safe airspeed, normal cruise, and slightly above cruise before arriving at LAL during the NOTAM effective time and dates.

AFTER TOUCHDOWN

Because of the volume of aircraft landing at LAL during the Fly-In, every pilot needs to review the landing procedures in the NOTAM. A few of the highlights are listed below.

Aircraft are to remain on a hard surface at all times unless directed by the tower or flagman to do otherwise.

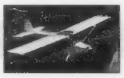
Expeditious clearing of the runway is essential because of continuous arriving and departing aircraft behind you.

Do not stop on the runway.

Exercise extreme caution when taxiing because of the high volume of aircraft, vehicles, and personnel.

PARKING

Most of the aircraft parking is on the south side of Runway 9R/27L. Sun 'n Fun ground personnel will direct aircraft to parking. Flashing arrows are also used to indicate taxi routes.



Park only where directed by Sun 'n Fun ground personnel. You may be temporarily stopped before your final parking area. You just need to follow the directions given you.

Don't leave your aircraft until you have reached your final parking spot and have tied down your aircraft.

ELT CHECK

Before shutting down your aircraft, if you have a radio-equipped aircraft, you should check radio frequency 121.5 MHz for any inadvertent emergency locator transmitter (ELT) activation before turning off your radio. Any ELT signal detected should be referred to the Sun 'n Fun ground personnel or the onsite Flight Service Station personnel.

Aircraft en route to Lakeland should periodically monitor 121.5 MHz for any ELT distress alert. If an ELT signal is detected, you should note the time and location and contact the nearest ATC facility or Flight Service Station with the information.

ATC—THEY MAKE IT HAPPEN

Last year, I had to opportunity to visit with air traffic controllers working the runways and the airport's control tower as well as those manning the Lakeland fire training center out near Lake Parker. The fire center's high-rise training tower is used by ATC as the primary observation and control site for aircraft landing VFR at Lakeland during the period the NOTAM is in effect. Each group of controllers has its own responsibilities and duties to ensure a safe and orderly flow of aircraft in and out of Lakeland.

But those working the fire tower and those working the runways really need the cooperation of the pilots they are serving. Those in the fire tower need pilots to respond to any ATC instruction with vigorous wing wagging as outlined in the NOTAM. Then pilots need to follow the appropriate ATC instruction for the safe, orderly, flow of traffic to the airport as outlined in the NOTAM. The idea is that all pilots will comply with the published NOTAM directions and any appropriate ATC direction with the least amount of radio transmissions. Because of the number of aircraft involved, the need to minimize radio transmissions becomes more and more important as the aircraft count starts adding up into the thousands. Radios should be used only as needed or in case of an emergency. The normal method of communicating with an aircraft is for a controller to recognize aircraft type and color. For example, a controller at the fire tower may say, "Blue Cessna over the power plant follow the red Piper in front of you." Rather than say something, the Blue Cessna pilot is expected to vigorously rock the aircraft's wings if the pilot understands the instruction. The fire tower controllers then watch to ensure the blue Cessna follows the red Piper.

WATCH OUT FOR THE CONTROLLERS ON THE GROUND

Those ATC people working the runways were personally at risk. I watched a crew launch aircraft departing Lakeland one evening after the air show was over and the airport had reopened. Launching aircraft staggered along both the right and left sides of the runway with aircraft backed up behind those in position for takeoff, controllers had to watch both the aircraft departing for the proper separation and those being moved up to the designated launching point while making sure each controller did not get run over by an aircraft or hit by a propeller. Although working quickly to keep traffic moving, each controller had to watch out for his or her own safety as well as the aircraft each was directing.

Adding to the challenge was the need to keep similar aircraft grouped together as much as possible to ensure that a faster aircraft departing after a slower aircraft did not overtake the slower aircraft and cause a possible midair collision. Add in the fact the controllers were using parallel runways, and the controllers' skill and professionalism became very apparent. The key to safely launching as many aircraft as they did was the cooperation and skill of the pilots involved as well as experienced controllers working the taxiways and runways. The controllers depended upon the pilots knowing the departure procedures as well as being able to safely fly their aircraft in proximity to other aircraft. Working together, the controllers and pilots were able to quickly and safely launch a lot of aircraft. This cooperative effort could only have been done by everyone knowing and complying with the published NOTAM procedures.

TEMPORARY FLIGHT RESTRICTIONS AND THE DC ADIZ

Although every pilot is expected to read and understand the Sun 'n Fun NOTAM, each pilot flying to Lakeland must check for any temporary flight restrictions (TFR) along the route of flight. Pilots flying from the northeast area of the country who have to fly near the Washington DC air defense identification zone (ADIZ) are cautioned to avoid the ADIZ unless they comply with the published procedures for entering the ADIZ. Too many pilots have had enforcement action taken against them for unauthorized penetration of the ADIZ.

P-40 AND RELATED AIRSPACE

Pilots flying through western Maryland to Sun 'n Fun west of Washington, DC, need to pay particular attention to the airspace surrounding the P-40 prohibited airspace and its co-located restricted area. Although now highlighted on the Washington sectional chart, pilots need to remember that the restricted area can expand beyond the charted area when the President is visiting Camp David. A NOTAM will be issued when the area is expanded. Like the Washington ADIZ enforcement actions, violations of P-40 and its airspace are strictly enforced. An airspace violation en route to Sun 'n Fun is not the way to start your trip. In the case of the Washington ADIZ and P-40 areas, military or law enforcement aircraft will intercept violators.

Sun 'n Fun® 2005

FAA Safety Center Forum Schedule

April 12 to April 18, 2005

Time & Date	12 Tuesday	13 Wednesday	14 Thursday	15 Friday	16 Saturday	17 Sunday	18 Monday
0830	CFI & Proficiency	New technologies for weather accident prevention	Why engines really quit: The top ten reasons	Wide area augmentation system	Sport pilot instructor privileges & limitations	Flying the Islands of the Bahamas	No activity
Presenter	Walt Schamel	Paul Stough	Bruce Edsten	Dan Hanlon	Marty Weaver	Greg Rolle	
1000	Flying the Islands of the Bahamas	Runway Safety	Weather wise	Maintaining your medical	GPS beyond direct-to	Safety Program Airmen Notification System	No activity
Presenter	Greg Rolle	Luis Castro	Mark Grady	Dr. Jordan	Mark Grady	James Pyles	
1130	Losing control of a perfectly good aircraft	Sport Pilot	The Kings on practical risk management	AOPA-ASF	Single pilot IFR	Check ride preparation — area of operation 1	Finale Recap of Sun 'n Fun 2005 airshow & events
Presenter	Janeen Kochan	Marty Weaver	John & Martha King	Bruce Landsberg	-	Steve Brady	Ben Coleman
1300	Intercept Procedures	Three areas facing challenge in flight instruction	Flight training in the 21st century	Meet the FAA	The pilot's guide to Rotax aircraft engines	Risk management on the airport surface	No activity
Presenter	Maj. Chris Morton	Doug Stewart	Rusty Sachs	-	Phil Lockwood	Dan Cilli	

Opening Ceremonies: Tuesday/Splash In: Thu/Fri @ Lake Parker/Balloon Launch Briefing: Saturday @ 0630/Backup: Sunday/Forum opens 0800 — 1400/Night Airshow: Saturday

Sun 'n Fun VFR Arrival NOTAM Addendum can be found at <http://www.faa.gov/fsdo/orl/snfland/arrivalphotos/index.htm> (Not the official FAA NOTAM)

Some or all the presentations at the FAA Safety Center & Production Studio will be simulcast on Sun 'n Fun Radio, 1510 AM. Check web site for updates: <http://faaproductionstudios.com>.

Look for presentations on ATN, The Aviation Training Network and GETN, The Government Education Training Network, and FAN, Florida Aviation Network, March 21 & April 11 @ 11:00 am ET and again on April 12, 13, 14, 15, & 18, @ 11:30 pm ET

Air Show Survival Tips

The following information is from the EAA AirVenture™ web site and tells how one can prepare to survive attending AirVenture™ or any outdoor event and enjoy the experience. This article provides some fast and easy tips that have proven their worth over the years for air show attendees. For your convenience, we've condensed them into a top 10 list for a more pleasant air show experience.

Apply sunscreen: One thing is for sure, sunscreen works. Make sure you cover exposed areas of your body with at least an SPF 15. If you bring children, don't forget to cover them as well.

Bring a pair of comfortable shoes. Take good care of your feet. Wear the most comfortable walking shoes you have. Just truckin' around the grounds can add up to several miles over the course of one day..

Wear a hat. Temperatures can range anywhere from the 60s to the 90s. On such days, a hat can provide some protection from overheating. If, for some reason, you forget to bring one, there will be plenty of official Sun 'n Fun hats available. (If you're watching the air show from the flight line, the back of your neck will likely be fully exposed to the afternoon sun. A bandana tucked under the back of your cap can provide an effective sun block.)

Use lip balm. Not many people think of this, but bring some Chapstick™, Blistex™, or other brand and apply often to prevent the sun from turning your lips into leather.

Wear sunglasses. A fairly obvious item on your checklist, one for which your eyes will thank you. A neck strap also comes in handy.

Check the forecast. If there's a chance of rain during the day, be prepared with a light jacket or poncho, a small umbrella, and an extra pair of socks.

Drink lots of water/bring a water bottle. Dehydration can be a problem for even the heartiest air show attendees, especially on those oppressively hot afternoons. Nothing prevents dehydration as well as water, and bottled water is available at the many concession areas. You can make plenty of use of the many water fountains located throughout the grounds. Don't rely on soda pop to prevent dehydration. (Alcohol actually hastens the process.)

Organize your visit. Take advantage of all the information available before you get here. In this case, see <www.sun-n-fun.org>. For example, if you plan to attend some of the hundreds of forums, check out the forums schedule page that allows you to view the forum schedule by date, interest, keyword, or presenter.

Bring a camera and lots of film. Be sure to check your battery, and it's not a bad idea to have extras just to be safe. A good rule of thumb is to bring two more rolls of film than you plan to shoot. If you bring a video camera, make sure you have an extra tape and at least one fully charged spare battery.

A few don'ts:

When you're near aircraft, the rule is: "Always ask before touching." For safety's sake, eating and smoking are not allowed in the flight line or near airplanes. In fact, if you've been thinking about quitting smoking, this would be a good time to do it.

Although many have tried, it is literally impossible to see everything in one day, much less a week. Pace yourself, and focus on what really interests you.

Please remember that rules and regulations exist to ensure everyone's safety and enjoyment. We hope you enjoy your visit to Sun 'n Fun. By heeding these few bits of advice, you'll be well on your way.

Tales of an ASI

by Al Peyus

It's Air Show Time Again!

The air show season has started! The big kick-off event is "Sun 'n Fun" with 'Oshkosh" to follow. There will be over 1,000 large and small air shows scattered across this great land! From past experiences, several states will have close to 100 various air shows to visit!

We all enjoy the beauty of a sleek styled aircraft, the beautifully painted fabric of the 1930's vintage aircraft, the perfect symmetry of a 1918 biplane, and the shiny and glistening display of the late '40's and '50's aircraft! The sound of a well-tuned "round" engine is heaven to our ears (if we can still hear, that is!)! And what those great air show pilots do with those very aircraft is beyond words. For the aircraft enthusiast, the air show is the culmination of achievement, discovery, and experimentation for all aviators. The shows provide a panacea of wondrous new and old aircraft to delight and please our senses. For the air show pilots and aircraft, it is the chance to "strut their stuff" and excite and please us through their talents and daring!

Before we start planning our treks around the country chasing these wonderful experiences, exciting people, and beautiful aircraft, there are a few things that we, as viewers, observers, audiences, crowds, etc. need to know to stay safe and act properly.

Yep! Even we, the audience, have guidelines to which we adhere. Etiquette or conduct for the observing public is an important issue during the air show season. Improper etiquette or conduct has had some observers escorted off the field—or worse. Let's not have that happen to any of us.

To avoid an embarrassing situation and possibly loose out on the experience of a lifetime, here are a selection of the "Do's and Don'ts" for attending air shows. The intent here is to provide a guide to help make your air show visit an exciting, interesting, and pleasurable one for you, your entire family, and all those around you.

During my career as an Aviation Safety Inspector I have been the FAA "Inspector-In-Charge" at many air shows. During these shows I have seen dehydration, sunburn, heatstroke, sunstroke, hyperthermia, fractured bones, and at least one case of really bad chapped lips!

Rules for the Audience

Every air show has rules for the visitor. It may be in the form of a formal handout as you enter the gates, placards at each static display, announcements over the public address system, or someone simply reminding you to use common sense. No matter the source or means of distribution, the rules are for your safety and protection, as well as the safety and protection of the performers and their equipment.

Everyone directly connected with the air show has safety on his/her mind. The performers are concerned not only for their own safety, but also for yours! They plan their acts around tight guidelines and parameters that assure you will not become an unintended part of the act!

Your role and duty is to treat the performers and their equipment with respect. When a sign is posted that requests that you **DO NOT TOUCH** or **DO NOT CLIMB** on their aircraft or equipment, please don't. The concern is not only to maintain the beauty of the equipment, but also its safe and proper function.

Here is an example of a failure to observe this rule at an air show in the mid-west. The "culprits" were a father and five-year old son. The son wanted to get a closer look inside a beautifully restored *Spitfire* that was sitting on the static ramp between performances. Although a sign was posted to stay off, the father boosted his son up to allow a peek inside. In the process, the son accidentally poked his foot through the wing. The *Spitfire*'s performances were cancelled for the remainder of the three-day air show.

Another aspect of respecting the rules and property of air show participants is the need for many people to get "up close and personal." There have been instances where people have unintentionally damaged fabric, jammed rudders, elevators, ailerons, or broke a clasp used for holding a wing walker or smoke ejector. We are all curious as to how an aircraft is put together and how things are attached. By grabbing a portion of the aircraft, we take a chance on damaging or breaking it. Our exuberance can be our worst enemy.

Everyone wants an autograph from the great performers working our air shows. When the press of the

crowd gets heavy, something has to give. Most air shows have an area set up to allow autographs. It is some times close but away from the aircraft. That helps protect the aircraft from the press of the public. It is not fair running up to performers as they are trying to get out of their aircraft!

There is another group to be knowledgeable of and respect at air shows— the "fly-in" groups. Be it Oshkosh, Sun 'n Fun, or any other fly-in style air show, there will always be a group of pilots with friends and family in tow who will arrive and camp out under or near their private aircraft while enjoying the show. The area where they park their aircraft and camp is normally well marked as such and should never be considered "part of the static display" for the show. It is assigned as their own private camp spot. It may seem strange to those who have hotel rooms, but be considerate of those who camp out. Allow them to enjoy it by respecting them, their area, their aircraft, and, most importantly, their privacy.

That Dreaded Show Line!

The Show Line is another one of those rules, and barriers, that really needs to be observed. The Show Line is a measured distance from the edge of the performance area—usually the runway used by the performers that doubles as their guideline for their performance. It is a line that provides a safe distance from the performers in case things go bad. This is normally up to 1,500 feet from the centerline of the performance area.

The Crowd Line

The Show Line is protected at events by a Crowd Line. The Crowd Line is just what it sounds like. It is a line beyond which the crowd cannot go past. During a flight performance, if a member of the general public does make it past the Crowd Line, the Safety Manager, Air Show Boss, or Aviation Safety Inspector will notice!

Is it that bad to cross the Crowd Line? By doing so, the Safety Manager or Air Show Boss is required through the Air Show Waiver to stop the show and clear the Show Area. That means the performer must stop his/her act, fly to a pre-set holding area, and await the clearing of the Show Area. Because most air shows are run on a very tightly planned schedule, and the performances run about five minutes, that performer will not be able to complete the performance.

Emergency conditions draw another flag of concern. If the worse case scenario happens, the tendency of the public is to run closer to the scene then away from it. It is a strange quirk of human nature to want to see the accident up close and personal. There in lies the problem. If everyone is trying to get close to the accident site, the emergency response squads cannot get through to do their job.

It does not have to be an emergency scene. If an aircraft has a malfunction, the repair or service crews need to get to it to fix the problem. All problems do not have to occur only in front of the Show Line! Please allow the responders room to do their job by staying behind the Crowd Line and allowing emergency vehicles to move through the crowd unobstructed. We are all curious to know what is happening when something out of the ordinary occurs. Our curiosity must be stemmed to allow those who have jobs to do the ability to accomplish the tasks at hand.

Plan for the Changing Weather

We all know how reliable weather forecasting can be! On a beautifully forecasted weekend, I have seen unforecasted microbursts, flooding rains, high winds, and blistering heat. At one weekend air show, an unforecasted thunderstorm popped up. It brought a severe microburst that leveled tents, upset half the portable kiosks, rolled every portable toilet, damaged most of the aircraft left on the field (a few were able to make an immediate takeoff heading for clear air), and injured nine people, two seriously.

No matter the time of the year you are attending the air show, always plan on the weather changing. No matter what is forecast, come prepared for the weather to provide a surprise! Mother Nature has a funny way of messing with everyone's mind and planning.

Start with head cover. Everyone needs a hat or head cover of some sort. Air shows are generally planned to be performed in fantastically sunny weather. The sun can be brutal (especially for us "follicle challenged" people). Heat stroke is definitely a bad way to end the day!

Sunglasses are a must! The sun is supposed to be shining, we hope. The eyes will only take so much sun before they let us know they have had enough. With most performances dancing in the air above our heads, we do tend to look up a lot!

Wear or bring layers of clothing. It isn't only the southwest that has cool mornings with hot afternoons! Even July or August can have unusual weather that can catch people with their coats, sweaters, raincoats, umbrella's, or gloves at home where they do no good at all!

Air shows are planned for open-air assemblies, with little shade. Water is a necessity. Drink plenty. Not being a doctor, I cannot state what the minimum amount should be for each of us. But, if you drink at least one bottle of water an hour, it is a start in the right direction. If you or some one with you has a problem, there is usually a medical emergency tent in the area. Get to it immediately. The medical emergency staff is there to help!

No matter the size of the air show, it is always a delight to see the aircraft and meet the pilots who make them dance in the air! It thrills the aviation enthusiast in all of us to the very core of our being. Allow the air show experience to be what it is intended for everyone by following the guidelines and rules issued for each show. That way, each of us can have the experience of our lives safely and protect the performers and equipment we came to see! Enjoy the air show season!

Creative Aircraft Ground Safety

story and photos by H. Dean Chamberlain

This is one colorful way to warm people of a sharp edge on an airplane. Not only is it colorful, but the wind catcher rotates in the wind to make it even more visible. A protected clamp holds the wind catcher safely on the wing

Pilots are a creative lot. To prove that point, last year I saw some very creative aircraft ground safety ideas pilots used at some fly-ins to protect other pilots and spectators walking around their aircraft. As this year's air show season kicks off with the upcoming EAA Sun 'n Fun Fly-In in Lakeland, Florida, I thought other pilots might appreciate seeing a few of these ideas. Who knows, maybe some pilots will even use the ideas for their own aircraft. In addition, pilots being pilots, who knows what other ideas these ideas might generate. *FAA Aviation News* might even be creative and print some of the ideas if they are submitted to the magazine.

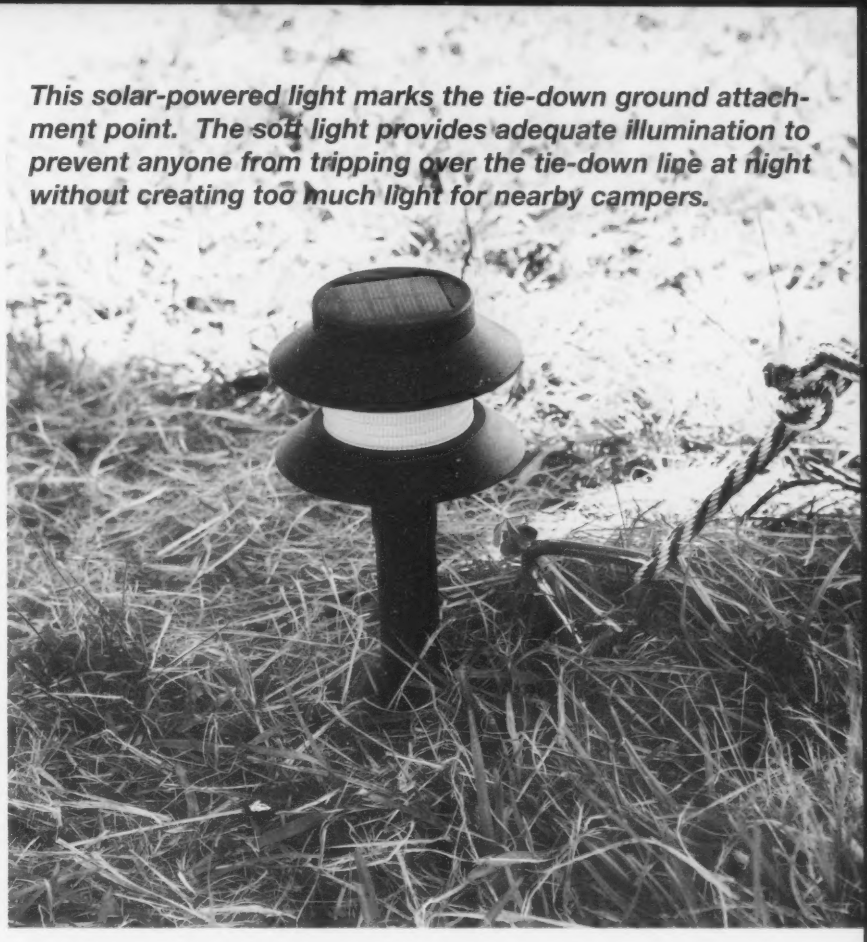
As we have said in the past, everyone attending a fly-in must always be aware of the dangers of moving aircraft and rotating propellers. Normally, at the larger air shows and fly-ins, moving aircraft are escorted to and from the parking/tie-down areas by people walking along side the aircraft to help reduce the risk of someone accidentally being hit by the aircraft. And at the larger events, jet aircraft are normally parked in separate areas so the risk of jet blast is reduced. I say reduced because there is always the exception to every situation, so everyone must be alert for moving aircraft or aircraft engine start up.

But there is a danger many people don't think about until it is too late. That is the danger of the proverbial tied-down aircraft or what might be called the "trip monster." If you have ever tried to walk between aircraft at the major fly-ins with row after row of aircraft tied-down wing tip to wing tip, you know what I am talking about. In many cases, the tie-down ropes and ground attaching hardware pose the greatest risks. In addition to the trip hazard of the tie-down lines, there is always the danger posed by the sharp

edges of aircraft wings, rotor blades, and other sharp edges found on aircraft. Struts and pitot tubes can ruin your day it you hit one or the other.

Adding to this risk is the fact some pilots camp under the wings of their aircraft at fly-ins. Now you have to be careful not to trip or step on their tents, sleeping bags, and other camping gear. Having seen some of these campers, I would guess that waking a sleeping pilot early in the morning is akin to waking a sleeping bear from a long-winter's nap. You just might not want to be the one to wake the sleeping beast. So whether you are in bear country or the middle of a flock of aircraft tied down in a field, you might want to walk carefully.

The following photographs highlight some of the creative items used by pilots last year. I thought one of the best ideas was that of the pilot who used solar-powered rechargeable lights to mark the tie-down lines. The low voltage lights are available at your local home maintenance warehouse center for a few dollars. The lights charge themselves during the day and use their own internal batteries at night. I don't know if they pose any explosion risk in case someone inadvertently drains a fuel sump and throws the collected fuel on the light, but then who would do such a thing in a crowded tie-down area.



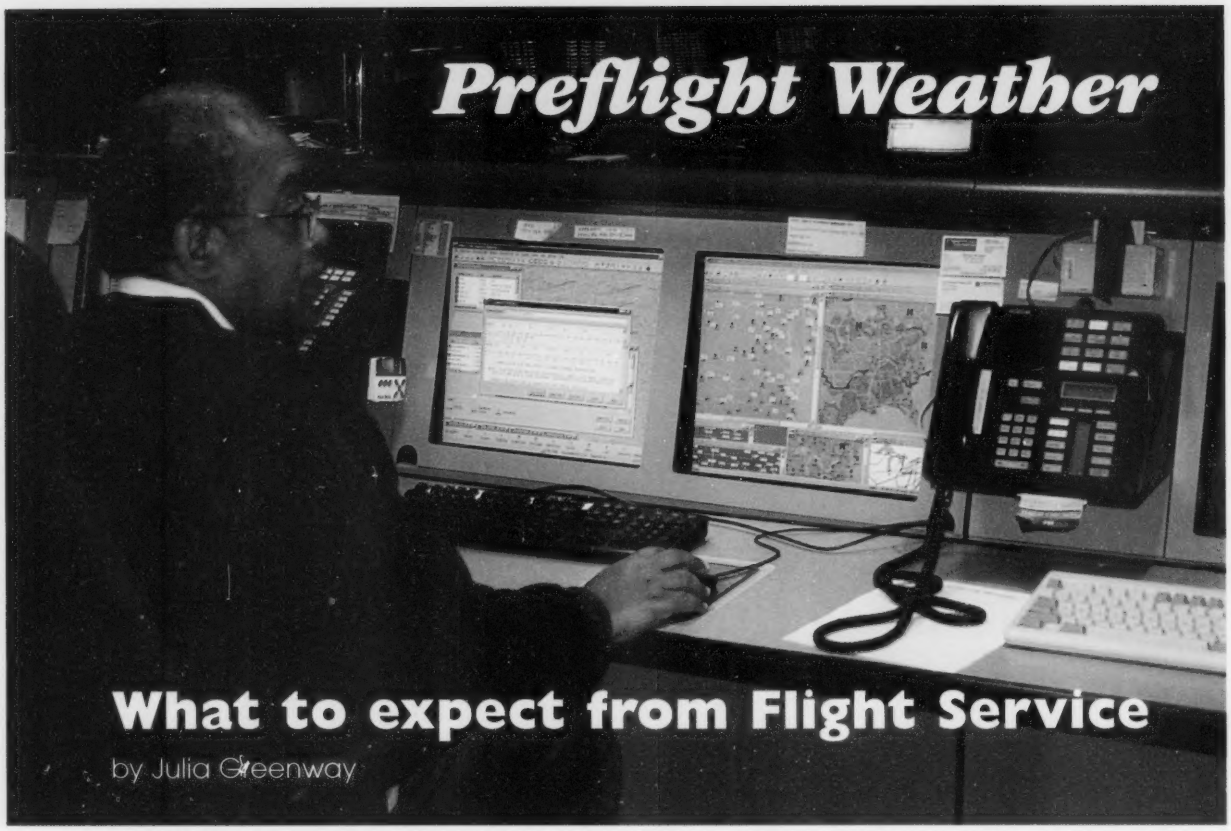
This solar-powered light marks the tie-down ground attachment point. The soft light provides adequate illumination to prevent anyone from tripping over the tie-down line at night without creating too much light for nearby campers.

For years, pilots have attached warning flags, signs, or other objects on their wings to warn people of a low wing or sharp corner, etc. But some pilots go that extra mile to make that warning not only practical but interesting as well.

Finally, people have been using PVC pipe for years for everything imaginable including, at times, what it was designed for—plumbing. The photograph of the PVC pipe rudder lock is a good example of what someone can do with a little creativity.

I hope these photographs give you some ideas of what you can do to increase the safety of both your aircraft and those folks walking around it. And what better way to show off your idea then by going to the next air show and fly-in. Have a great air show and fly-in season.

This aircraft displays the creative use of PVC pipe and foam pipe insulation to make a rudder lock. The soft foam helps protect the aircraft from any damage while the PVC pipe make a rigid frame to hold the rudder. Since the PVC pipe can be cut to any length, this design is adaptable to any size aircraft.



Preflight Weather

What to expect from Flight Service

by Julia Greenway

(Clif Brooks photo)

Leesburg AFSS Supervisor Robert Wright monitors specialist weather briefings from the Operations Bridge. In-flight consoles areas are illuminated in the background.

NTSB reports available through NASDAC (National Aviation Safety Data Analysis Center) from January 1, 1996, to December 31, 2002, indicate that over 50% of the pilots involved in Title 14 Code of Federal Regulations part 91 fatal weather accidents failed to obtain a required weather briefing. A further in-depth review of these accidents shows that they could be classified into four broad categories related to weather hazards and weather information:

- *The weather hazard is unknown to the science of meteorology.*
- *The weather hazard is known but not detected or reported to aviation weather dissemination outlets;*
- *Aviation weather dissemination outlets fail to advise the flight crew of a weather hazard in a timely manner. Weather hazard areas frequently pose a time-critical need for information and action by flight crews. This is a common failure. The data show a very limited number of weather updates on in-flight weather briefings.*
- *The weather hazard is understood, detected, and disseminated; however, the flight crew lacked the knowledge, skill, ability or judgment to effectively deal with the weather hazard.*

Much of what we do at Flight Service involves these very crucial elements of flight and timing of information. At Flight Service, it is our responsibility to provide weather and aeronautical information to the pilot in a sequenced and easily understood format, with explanations as required and requested. It is the responsibility of the pilot to provide the minimum information requested and to understand and comprehend all information to make an informed decision to fly.

As a Flight Service specialist, I understand that knowing what to look for in weather patterns is essential to a safe flight and providing that information into an easily understood weather briefing can only translate into aviation safety. No one will argue that this is an easy task, as no one will argue that weather is an exact science. One that is not easily predicted, even with good forecast data; but deciphering weather along changing terrain and weather patterns and translating that into an understandable format is a challenge within science itself—a challenge that is shared by both the pilot receiving the service and the preflight weather

briefer providing the service.

VFR Flight Not Recommended

VFR Flight Not Recommended (VNR) may be the most controversial statement in Flight Service. However, Flight Service specialists are required to include this VNR statement to the pilot "when VFR flight is proposed and sky conditions or visibilities are present or forecast, surface or aloft, that in your best judgment would make flight under visual flight rules doubtful." Further, the specialists are required to "describe the conditions, affected locations and times." If a briefer tells you that VFR flight is not recommended without providing an explanation, or the explanation is not obvious, and you are not sure why VFR flight is not recommend, ask the briefer for the reasoning behind the recommendation. VFR may not be recommended in a certain area, because of low visibilities, but may be completely unrestricted in another direction, allowing for VFR flight. The important thing to note is that this recommendation is advisory in nature, and the final decision as to whether the flight can be conducted safely rests solely with the pilot. The briefer is required to provide the pilot with the information needed to make an informed decision. Therefore, you should never leave a briefing without a complete understanding of the briefing and recommendation, and if you do not understand any aspect of the briefing ask for clarification or an explanation. Keep in mind, that at a minimum, FAA regulations require the Flight Service specialist to use the VNR statement if: *Sky conditions or visibilities are present or forecast, surface or aloft, that in the judgment of the AFSS/FSS briefer would make flight under visual flight rules doubtful.*

Remember, just because the briefer does not issue the VNR statement, does not mean a flight will be free of adverse weather phenomena. Thunderstorms, turbulence, icing, and strong winds, do not, in and of themselves, require the briefer to issue this statement. However, these weather conditions usually accompany less than VFR conditions.

Flight Service specialists are qualified and certificated by the National Weather Service as a pilot weather briefer. They provide around the clock real-time weather and aeronautical information mostly to the general aviation pilot. Before calling, it is helpful to check out your local weather station or other media to get a visual weather picture, but keep in mind this is a forecast for land dwellers and should never replace an aviation briefing. Another pre-briefing source of weather, provided by Flight Service, is the telephone information-briefing service (TIBS). This service provides pilots with a recorded summary of pre-determined areas and routes spanning out in different directions from the as-

TRANSBORDER U.S./CANADIAN FLIGHT REQUIREMENTS

With the increased emphasis on international security, pilots have a greater responsibility in complying with all security, flight, and customs procedures when flying to and from the United States (U.S.), Mexico, and Canada. The following example outlines the procedures for flying between Canada and the U.S. Please note that Canadian and U.S. transborder publications are being revised. Because these procedures are subject to change, pilots are reminded to check for the latest information from both Canada and U.S. agencies before planning a transborder flight.

Outbound U.S. flights to Canada—FAA Flight Service no longer forwards Advise Customs (ADCUS) information to Canada. Pilots are responsible for notifying Canadian Customs directly. Pilots must contact Telephone Reporting Centre (TRC) at 1-888-226-7277(1-888-CANPASS) for customs notification at least two hours, but not more than 48 hours, before flying into Canada.

The U.S. FDC NOTAM 2/5319 provides information on U.S. transborder procedures and requirements. The NOTAM is available on the FAA's Internet web page <www.faa.gov>.

The following Canadian Internet web site provides information for U.S. aircraft entering Canada. In addition to the Canada Flight Supplement (CFS), this web site lists Canadian airports of entry and contact information: <http://www.cbsa.gc.ca/travel/canpass/air/entry-e.html>

Inbound from Canada into the U.S.—In addition to a flight plan requirement, the equivalent Canadian process for inbound flights to the U.S. starts with a call to a port of entry listed on this web site: <http://www.customs.gov/xp/cgov/toolbox/ports/>

US-VISIT program procedures apply to aircraft inbound to the U.S. from Canada. For more information on these requirements ask the agent at the port of entry. You should also visit the Department of Homeland Security web site for more information: <http://www.dhs.gov/dhspublic/display?content=736>

FAA Aviation News wants to thank Canada Border Services Agency (CBSA), Transport Canada, and John Quarterman of Canadian Owners and Pilots Association (COPA).

The current OASIS is set-up to provide a tailored look of the local weather pattern in the Washington DC area. A warm front as indicated on the weather depiction chart (right) was providing a barrier (in addition local Appalachian terrain) to a combined warmer (relatively) and moist southeasterly flow ushered into the mid- Atlantic region circulating with help from the low pressure to the west and the high pressure in the northeast. The systems were keeping ceilings marginal VFR and IFR to the west as indicated, respectively, by blue and red shading. The RADAR MOSAICS chart (center) depicts widely scattered light to moderate precipitation in VA, MD, and DC, with moderate to intense precipitation depicted west and north of the local Washington area. The local graphic depiction chart (left) provides the specialist with a quick reference of airports and navigational aids. Mosaics charts can also be over-layed with graphics, such as the Washington ADIZ overlay depicted on the RADAR MOSAICS taken January 11, 2005. This depiction does not indicate a P40 overlay, as this would increase flight restrictions further northwest of Washington ADIZ. (Clif Brooks photo)

sociated Flight Service Station. Recordings are updated hourly and as significant conditions dictate, but, because they are time specific, they are not a good source in rapidly changing weather systems, and should never replace a pilot weather briefing—only enhance it.

Specialists translate and interpret available charts, radar, forecasts and national weather service reports directly into terms describing the weather conditions you can expect along your flight route and at your destination—from surface charts depicting prevailing weather systems to lifted index charts indicating the stability of, or instability of air, to visible satellite imagery depicting cloud "street" formations (for soaring pilots) to less visible coastal advection fog. Specialists must obtain minimum flight information for the briefing requested and are obligated to provide adverse conditions, both meteorological and aeronautical (your destination airport may be closed), to ensure you have the information you need to make a fully informed decision to fly.

OASIS Equipment

Some Flight Service Stations are equipped with the latest that technology has to offer. Approximately 16 Flight Service Stations are equipped with OASIS (Operational and Supportability Implementation System). OASIS enables the briefer to overlay a route of flight using multiple charts for more precise route weather interpolation, and the latest software includes sectional charts. Other useful features allow multiple weather charts to be displayed at once with continuously updating data.

Minimum Flight Information

It may seem tedious, but be prepared to provide the briefer with the following required information (see Chapter 5 in the *Aeronautical Information Manual,* AIM) along with your request of a standard, abbreviated or outlook briefing:

- Type of flight: IFR or VFR
- Aircraft identification or pilot's name (the briefer needs to create a record file)
- Type of aircraft and performance enhancements (if applicable, i.e. deicing equipment, radar or stormscopes)
- Departure point

- Route of flight
- Destination
- Flight altitude(s)
- Estimated time of departure (ETD) and estimated time en route (ETE)

It is also good to give your pilot qualifications (e.g., student, newly instrument rated), so that the briefer has a better understanding of your experience level to provide you an even more tailored service.

There are three types of briefings available and it is best to know which kind you need before calling. However, depending on weather conditions and pertinent NOTAMS, your briefing may dictate more or less information than initially requested.

Standard Briefing

A standard weather briefing is a full weather and aeronautical information briefing, and consists of the following information provided in this sequence (see Chapter 7 of AIM):

- Adverse Conditions.
- VFR Flight Not Recommended (VNR)
- Synopsis
- Current Conditions
- En route Forecast
- Destination Forecast
- Winds Aloft
- Notices to Airmen
- ATC Delays
- Request for Pilot Reports (PIREPS)
- EFAS (inform pilots of availability of En route Flight Advisory Service for weather updates, thunderstorms, icing, requests for pilot reports, etc.)
- Upon request items (military training routes, military operation area, military NOTAMS, GPS RAIM information, etc. and any other requests for information)

Abbreviated Briefing

Request an abbreviated briefing to:

- Supplement mass disseminated data
- Update a previous briefing, or
- Request specific information.

Along with specific information requested, provide the briefer with the time, type, and source (vendor, another Flight Service, etc.) of information or your last briefing, and the briefer is obligated to advise the pilot if adverse conditions are present or forecast. Adverse conditions are not just weather related, but include airspace restrictions, ATC delays, and unscheduled airport closures, and any information that may immediately effect your decision to fly. In an abbreviated weather briefing, the briefer will ask if you have received any adverse weather condition reports. Unless specifically requested or the pilot indicates he or she does not have adverse conditions, details are provided only at the pilot's request, and since weather conditions change rapidly, it is strongly advised that you ask for the most current adverse conditions. For example, in summer, convective sigmets are updated with rapidly developing thunderstorms, or conversely, in winter, a pilot report of icing at or near your altitude may become available before or during or after (happens quite frequently) the briefing. This new information may indicate conditions not previously forecast that may be extremely pertinent to your flight. It is crucial to update and stay updated on adverse conditions.

Note: If you request only to file a flight plan, the Flight Service specialist is required to ask if you have the latest adverse conditions along your route of flight. Please do not take this question lightly, as it may mean the difference between a go and no-go decision. And the decision to request details on adverse weather conditions lies solely with the pilot.

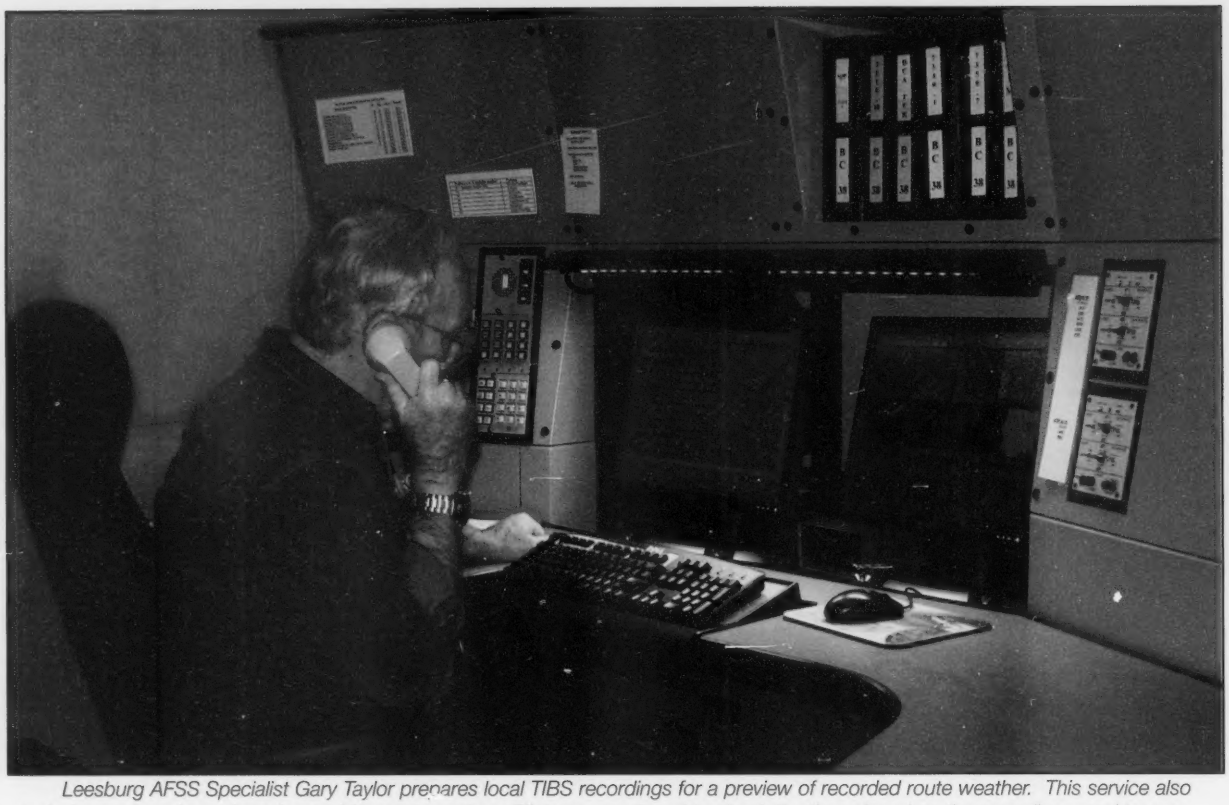
Outlook Briefing

An outlook briefing is provided when the proposed departure time is six hours or more from the time of the briefing. The briefing will be conducted in the sequence of a standard weather briefing, but will be limited to forecast data applicable to the proposed time of flight. The Flight Service specialist omits the VNR statement, current conditions, winds aloft, and NOTAMS, unless specifically requested by the pilot or deemed pertinent. Outlook briefings can be obtained, within reason, days before the proposed flight, and updated as necessary. However, Flight Service specialists only receive forecast chart information available within 48 hours of proposed time of flight.

800 Numbers and Cell Phones

Roughly 80 percent of Flight Service specialists' job is pilot weather briefing—primarily associated within the stations in and adjacent to their own geographical area. Within this area, Flight Service specialists are very familiar with the interactions of weather and local terrain. This is why it is important, when traveling across country, to contact the local Flight Service Station in the geographical area that you are departing from. When using cell phones, remember that 1-800-WX BRIEF (1-800-992-7433), which is the national toll free number for Flight Service, will route you to the local Flight Service Station of your cell phone area code. A popular story is of a pilot on the South Pole (Antarctica) calling Northern Virginia for a local weather briefing. More common, are pilots calling by cell phone in Alaska reaching someone in the contiguous U.S. and requesting a local weather briefing. Obviously, since weather and local terrain are a significant part of flight, it is important that you speak to a briefer familiar with the weather where you are at rather than your cell phone area code.

Toll free numbers (866 numbers) for in-area Flight Service Stations are located in the *Airport/Facility Directory* (AFD), and may be posted at your local airport. Some Flight Service facilities have dedicated web sites that list helpful information. Dayton AFSS, <www.dayafss.jccbi.gov>, provides a list of dedicated toll free Flight Service numbers and



(Cliff Brooks photo)

Leesburg AFSS Specialist Gary Taylor prepares local TIBS recordings for a preview of recorded route weather. This service also includes a general area broadcast of forecast weather. Pilots are cautioned to check the time placed on the recordings, and to use these recordings as a briefing enhancement, not as a replacement of a weather briefing.

physical location addresses.

Waiting Times

One of the biggest complaints received from pilots at some Flight Service Stations is the telephone waiting or holding times when calling for a preflight weather briefing. It has become particularly challenging in places like Washington DC, because of the Air Defense Identification Zone (ADIZ) and the Flight Restricted Zone (FRZ), among other flight restrictions. Although procedures have settled somewhat in the past months, the waiting times have changed dramatically, mostly due to Temporary Flight Restrictions (TFR), ADIZ restrictions and the resulting increased number of calls. A clear, fair-weather day use to be a breeze for pilots as no flight plans were required, and fair-weather briefings were quickly provided. Now everyone still wants to fly in these areas, but pilots are required to comply with the latest restrictions. Caller off-loads have eased some of the waiting at times, but workload and staffing needs are still not in balance. Flight Service specialists appreciate the patience of the general aviation pilot, and any suggestions to ease this situation might prove helpful.

Weather Briefing

A Flight Service specialist is trained to interpolate and blend real time weather products seamlessly to provide you with the most accurate and understandable weather along your route. They have, at their fingertips, a multitude of weather and aeronautical information from which to draw, not the least of which is their seasonal experience.

Before starting a work shift, briefers familiarize themselves with all available weather and aeronautical information pertinent to their own geographical and adjacent geographical areas, to get the "big picture." Specialists normally start out by familiarizing themselves with the local and outlying weather (the big picture)—by using all available charts, radar, satellite, and National Weather Service (NWS) products reporting real-time and forecast weather. The surface analysis chart provides a good basis from which to draw, as it indicates the position of surface based weather systems: such as areas of high pressure, low pressure, fronts, and troughs.

Mental notes are made of anything significant or unusual to pass on to pilots for their shared information and understanding. If something doesn't make sense, like a pilot report for icing, but there are no indications of precipitation on radar, the briefer will check all available data to evaluate the pilot report. There could be a warm layer aloft (inversion), interacting with a weak trough, which working together, can create enough moisture to produce an area of light icing aided along

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by the upslope of local terrain—or it could be an old (the better part of an hour) pilot report based on the leftovers of an exiting weather system. Since there are sometimes combined (weather is constantly changing) logical answers to real-time weather, there are combined multiple reasons, and the most logical explanation is sought, supported by real-time weather information. As pilots, it is extremely important to key in on any inconsistencies between forecast and real-time weather and the "why and how" that will affect your route of flight. This is not the time to hold back questions, but to ask until you are satisfied and comfortable with the information provided so that you can make an informed flight decision.

Once a pilot provides the briefer with pertinent background information, the briefer will provide the requested briefing in the appropriate format. Adverse weather conditions are most important, as they may determine the go/no go decision, and include both aeronautical and meteorological information. Adverse weather conditions, the VNR statement, if applicable, and a route synopsis should work together to provide an overall "big picture," and should provide the pilot with a solid basis for the rest of the briefing. Conversely, current conditions, pilot reports, and winds should clarify and validate the adverse conditions, VNR statement and synopsis.

Next, the briefer will summarize pertinent current conditions, en route, and destination weather using all available data, NWS data, radar, and pilot reports, and applicable forecast data will be summarized. Individual reports will be read for emphasis only, or as requested. These reports should complete the overall synopsis, VNR statement, and adverse conditions. At any point, the briefer may emphasize significant weather or NOTAM information. It is very important to ask questions if you are not certain how provided weather or aeronautical information pertains to your route of flight.

If you request a standard briefing, current conditions may be omitted if the proposed departure time is more than two hours from the weather briefing. A terminal destination forecast is given for the destination airport. If no terminal forecast data is available for the destination airport, the briefer will provide the area forecast as a destination forecast, supplemented by surrounding terminal forecasts as needed. Remember, that area forecasts are given in heights of mean sea level (MSL), unless otherwise stated by ceiling (CIG) or above ground level (AGL). Terminal forecasts are in AGL. Area forecasts are given in MSL heights to account for the larger forecast area and terrain. Destination forecasts/area forecasts are provided within one hour before and one hour after your ETA.

Winds aloft forecasts will be given using the compass degree from the direction the wind is blowing, e.g. "winds along your route of flight are forecast from 340 degrees at 25 knots." Forecast winds aloft are given in terms of true north, south, east and west, as opposed to magnetic direction, because magnetic north varies from true north depending on where you are located on earth. You must make corrections depending on your geographical location. This information may be supplemented with a pilot report, which should always mesh with the briefing being provided.

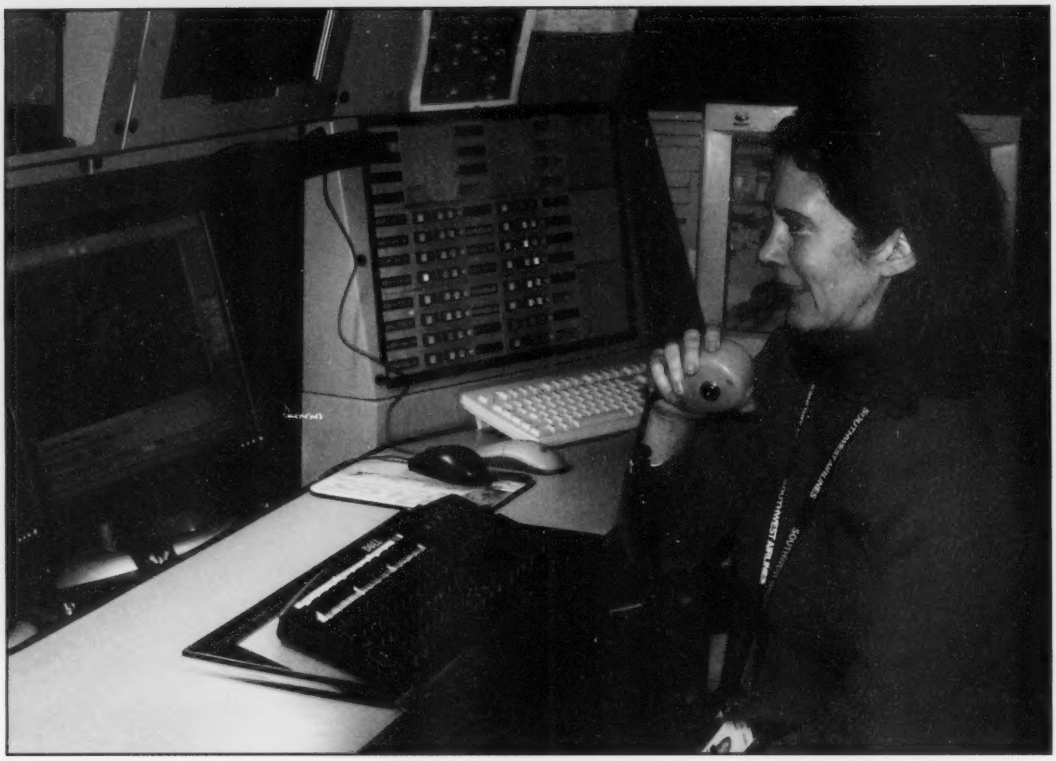
All information provided should flow seamlessly from the weather and aeronautical data. Further, the briefer is required to request pilot reports and advise pilots of the availability of radio or Flight Watch for updated briefing or pilot reports.

Airspace Restrictions

Airspace restrictions are spelled out in a NOTAM. Flight Service specialists translate the complexity of the NOTAM as it pertains to your route and altitude of flight. All pertinent NOTAMS are provided in a standard weather briefing. Since pertinent NOTAMS, such as airspace restrictions, airport closures, and ATC delays, may affect your go/no go decision, they are provided as a flight advisory; and in an abbreviated briefing, the briefer will ask if you have the most current flight advisories, including airspace restrictions—if you say yes, details are only available on request. Regardless of the type of briefing requested, changing airspace restrictions, NOTAMS, and advisories can change at any time and without notice—and it is the pilot's responsibility to obtain and understand the latest pertinent NOTAM information through a preflight briefing, and stay updated.

When it comes to flight restrictions, some geographical areas are particularly challenging, especially since changes can occur without warning. With spring coming, snowbirds returning, fun fly-ins, and the many other warm weather activities, it is best to prepare for and understand, well in advance, airspace restrictions along your route of flight. For example, when flying from the New England region to Florida, it can be very challenging to find a place to refuel in the mid-Atlantic area. To operate within the Washington ADIZ, you must be on an active IFR flight plan or file an ADIZ flight plan (IFR for transponder purposes), receive a discrete transponder code, and remain in continuous two-way communication with ATC **before** entering, landing, or departing the ADIZ. And, the difference between the already small unrestricted area between prohibited area 40 (P40) in Maryland and the Washington DC Metropolitan Area ADIZ narrows considerably, sometimes extending into the ADIZ, when P40 is "super-sized, "restricting flight altogether. In fact, just ask, "Are there any airspace restrictions along my route of flight?" Then, be prepared to copy. Military or U.S. Customs aircraft may intercept aircraft operating within the ADIZ without prior authorization.

To operate in the ADIZ, your transponder must be a coded beacon transponder, the aircraft equipped with automatic pressure altitude reporting equipment, having altitude-reporting capability that automatically replies to interrogations by transmitting pressure altitude in 100-foot increments, and pilots should be knowledgeable of intercept proce-



Leesburg AFSS Flight Watch Specialist Diane La Freniere interpolates thunderstorm location and movement for airborne aircraft. Flight Watch frequencies (on the right) provide both low (122.0 for aircraft below FL180) and high altitude (discrete) frequencies. Flight Watch specialists concentrate service on real-time adverse weather for airborne aircraft. (Clif Brooks photo)

dures as outlined in the AIM.

In-Flight Services

Flight Service provides two in-flight services: Radio and Flight Watch. Radio, or for example, "Leesburg Radio," correlates to the local servicing Flight Service Station—Leesburg AFSS. The common radio frequency nationwide is 122.2 MHz. However, most Flight Service Stations have frequencies discrete to smaller areas within their area. For example, when flying in the Charlottesville, Virginia, area, it is preferred pilots use 122.65 MHz instead of 122.2 MHz to ease frequency congestion, and it is a good idea to obtain discrete frequencies along your route prior to flight either from charts or from your Flight Service specialist, especially if operating in areas of limited coverage.

Radio services include updating weather and aeronautical information; activating, closing or changing flight plans; broadcasting weather updates; and emergency services. Additionally, in some geographical areas, pilots can contact Flight Service by tuning in a local VOR, stating the VOR you are listening over, and transmitting on 122.1 MHz. Flight Service will call you back by transmitting over the VOR you stated. It is also important pilots know the local VORs along their route of flight, especially in an area of minimal coverage, for updated weather information and in the event of an emergency.

Flight Watch

Otherwise known as En Route Flight Advisory Service, Flight Watch also correlates with the local Flight Service Station, but not all Flight Service Stations are Flight Watch staffed. However, each Air Route Traffic Control Center has a correlating Flight Watch. So, whichever center's airspace you're in will be your Flight Watch. For example, in New York Center airspace, it would be "New York Flight Watch." Flight Watch, like in-flight, has a common frequency, 122.0 MHz. Frequency 122.0 MHz is primarily for low altitude use, due to frequency congestion, and is available for flights operating above 5,000 feet and below flight level 180, although in numerous areas, contacts are possible below 5,000 feet. High altitude Flight Watch frequencies correlate with the specific area as do Radio discrete frequencies, and are charted, shown in the inside back cover of AFD, or available on request from your Flight Watch specialist.

HIWAS

Hazardous In-flight Weather Advisory Service (HIWAS) is a broadcast of summarized hazardous weather advisories. It will be updated as necessary and a time will be placed on the recording. This broadcast includes radar descriptions and pilot reports. Each HIWAS covers an area within a 150 nautical mile radius of an assigned outlet. Since HIWAS updates are provided when adverse weather becomes available, there may be a crucial time delay, as adverse weather conditions are constantly changing. As with all recorded information, pay particular attention to the time of the recording and contact Flight Watch or

Radio for the most current information.

A few notes about the role of Flight Service in Search and Rescue.

The purpose of filing a VFR flight plan is to have a database of correct flight information if search and rescue is needed. And, since it is an issue of search and rescue, the elements of a flight plan are very important. Of course, the N-number, type, and color of aircraft are significant for obvious reasons. However, one consistent problem remains: destination contact information. Flight Service needs a telephone number so we can contact someone immediately in case your flight plan becomes overdue. Plus, in case you fail to close your VFR flight plan, someone can call you at your destination.

Initial search and rescue procedures are started once an aircraft on a VFR or IFR activated flight plan becomes overdue, or a report is made to an air traffic facility of a missing aircraft that is not on a flight plan one hour from the actual time a reliable source reports the aircraft to be at least one hour late at the destination. Once the aircraft becomes overdue, an initial communications search is started, including a telephone call to the destination contact number you provided us when you filed your flight plan. A correct telephone number may avoid unnecessary search and rescue operations, and possible expense to aircraft owners. If an ELT signal is received, the ARTCC serves as the contact point and coordinates directly with the appropriate rescue coordination center (RCC). If not already in progress, Flight Service specialists initiate field searches, and proceed with search and rescue responsibilities.

Once a search passes the initial communications stage, one hour after the aircraft is overdue, the RCC becomes involved. Communications, air traffic, and field searches are still ongoing, but at this point, more personnel become involved—including local authorities if not already contacted to perform an after hours ramp search—which by the way, may involve removing expensive hanger locks.

Within two hours of your ETA a full and extensive search and rescue effort is underway. The search involves an area extending 50 miles on either side of the route of flight you provided us when you filed your flight plan, from the last reported position to the destination. Therefore, it is important to activate your flight plan (without that, all we have is a proposal), and make any changes in your flight plan, either prior to departure or aloft, to the local servicing Flight Service Station. All changes concerning your flight will be sent to the destination station. The information we have is the information we will use to locate your aircraft. Once safely landed, close your VFR flight plan with the destination Flight Service either on 122.2 MHz, (which is the common Flight Service frequency nationwide), or a discrete to the area frequency. If you are unable to contact Flight Service by radio, telephone it as soon as possible, or pass to air traffic to relay to Flight Service.

How to Get a Good Phone Briefing

So, how do you maximize your time on the phone with a knowledgeable weather briefer and decipher all that weather information?

Know your weather service products, ask questions, listen intently with emphasis on adverse weather and aeronautical information, and never be afraid to ask for weather and aeronautical explanations. You'll wish you had seconded guessed that weather pattern on that warm (relatively) sunny spring morning when the artic air has not completely exited the upper atmosphere, and an equally stubborn and moist southerly flow both confront to create an off-seasonal mix that can leave you questioning that "go" decision but not before you start trying to find a safe place to land in the aftermath of unseasonable scattered thunderstorms without as much of a warning as a fair weather cloud.

Pay attention to the big atmospheric picture, but don't be too quick to ignore that early morning fog that "has been" burning off by 8 a.m.—only to be interrupted by a stubbornly calm and yet warmer air mass, that settles the temperature/dew point spread till four in the afternoon—just days after the unending 8 a.m. trend ended.

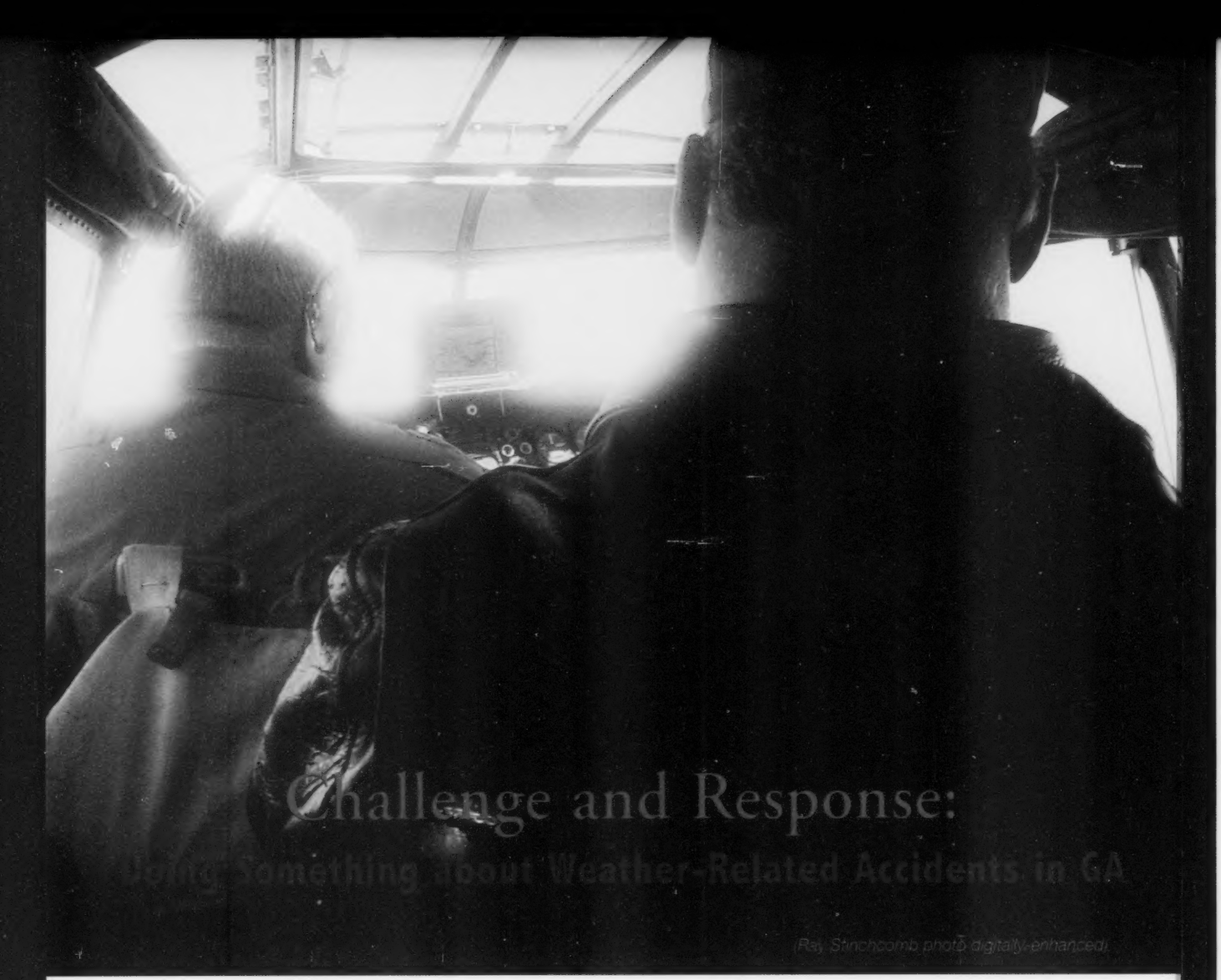
The bottom line is that it truly is the science of weather briefing that you should seek out when making that all important preflight call. It is not just about temperature and dew point spread, or local conditions—-weather truly is the big picture and finding your picture in the essence of the briefing is a science in and of itself.

Julia Greenway is an Air Traffic Control Specialist at the Leesburg AFSS in Virginia.

See page 36 for information on the future of Flight Service, now that Lockheed has won the contract to operate AFSS. From the pilot's perspective, it will be business as usual after October 1, 2005.

Related Reading Materials:

AC 00-45E, Aviation Weather Services and Flight Operations Personnel
AC 00-6A, Aviation Weather For Pilots
FAA-P-8740-30, How to Obtain a Good Weather Briefing
Aeronautical Information Manual
Pilot web site: <www.faa.gov>, link Pilots
Order 7110.65, Air Traffic Control
All these publications are available on the FAA's web site under "publications" or "regulations and policy."



Challenge and Response:

Doing Something About Weather-Related Accidents in GA

Ray Stinchcomb photo digitally-enhanced.

by Susan Parson

The Challenge

Whenever the weather licks the pilot instead of him lickin' the weather, he's finished. The first time makes the second time easier. And the first thing he knows, he's in trouble when the weather is perfect.— "Jake Lee" in Ceiling Zero (1936)

Aviation has come a long way since the 1936 film *Ceiling Zero*, in which one of the pilots crashes while attempting to land in bad weather. One thing that has unfortunately not changed as much is the role that weather plays in fatal airplane accidents. According to an FAA analysis, weather is still one of the largest causal factors in general aviation fatal accidents. The Air Safety Foundation's most recent *Nall Report on Accident Trends* and *Factors* notes that weather continues to be one of the factors most likely to result in accidents with fatalities. Indeed, 94 of the 340 fatal general aviation accidents (including half of the 58 fatal controlled flight into terrain, or CFIT, accidents) in iscal year 2004 occurred in instrument meteorological conditions (IMC).

The Response

Everybody talks about the weather, but nobody does anything about it.— Mark Twain

Although we might not be able to do much about the weather itself, the government and industry organizations that comprise the General Aviation Joint Steering Committee. [The GA-JSC is co-chaired by the FAA and the AOPA Air Safety Foundation and includes the Experimental Aircraft Association (EAA), the General Aviation Manufacturers Association (GAMA), the Helicopter Association Interna-

tional (HAI), the National Air Transport Association (NATA), the National Business Aviation Association (NBAA), the National Transportation Safety Board (NTSB), and the Small Aircraft Manufacturers Association (SAMA).] are doing a lot to help general aviation pilots deal with the weather more safely. Weather-related interventions by GA-JSC member organizations fall into three major categories: (a) better technology; (b) better procedures and training; and (c) better products. Here's a quick review of activities, initiatives, and accomplishments in each of the three categories:

Better Technology

The FAA has completed work on:

- Supplemental Type Certificates (STCs) for simplified installation and certification of VFR advisory and advanced avionics for GA airplanes in the Alaska CAPSTONE project. For more information see <http://www.alaska.faa.gov/capstone/>.
- A design specification for certification of Automatic Dependent Surveillance-Broadcast (ADS-B) avionics.
- A report including "lessons learned" from operation of ADS-B and terrain display equipment.
- A Technical Standard Order (TSO) for a low-cost Terrain Warning System.

Work continues on projects related to weather datalink systems, low-cost graphical displays, and better weather graphics for Flight Service Stations.

Better Procedures and Training

The FAA is improving weather-related airman certification, testing, and training materials. For example:

- Weather analysis is a special emphasis area in Advisory Circular 61-83E, which provides guidance for preparing Flight Instructor Refresher Clinics (FIRC).
- The instrument rating Practical Test Standards (PTS) has been revised to include emphasis on weather, and similar changes will be made to the PTS for other certificates and ratings.
- Weather issues are addressed in a new Advisory Circular (AC 61-134) on avoiding controlled flight into terrain (CFIT).
- Quick links to online weather tools and information have been added to the "Online Resources" section of the Aviation Safety Program web site <www.faasafety.gov>.

The AOPA Air Safety Foundation <www.asf.org> has created a number of weather-related training courses and materials for general aviation pilots. These include:

- A Terrain Avoidance Plan (TAP) that offers VFR pilots flying at night or in areas of less-than-good visibility with easy-to-use procedures to avoid terrain.
- A "Weather Wise" live safety seminar devoted to practical weather flying which is touring the nation now.
- Safety briefs on weather topics, such as avoiding wing contamination from ice.
- A collection of first person weather encounter articles by GA pilots.
- An online SkySpotter course on how to make and request PIREPS.

Better Products

GA-JSC member organizations have developed a number of weather guidance products. These include:

- The FAA's updated *Aeronautical Information Manual* (AIM) guidance on pilot use of weather graphics. This information is located in the AIM at 7-1-3.
- The Air Safety Foundation's *WeatherWise Strategies* safety advisor publication;
- A *Personal and Weather Risk Assessment Guide* developed by the FAA/Industry Training Standards (FITS) partnership. It can be found at <www.faa.gov/avr/afs/fits/pub_practices.cfm>.
- Articles published by the Experimental Aircraft Association (EAA), the Helicopter Association International (HAI), and AOPA on making effective pilot reports (PIREPS).
- Ongoing work to create graphic weather hazard area forecasts, and improved ceiling and visibility products.

The Future

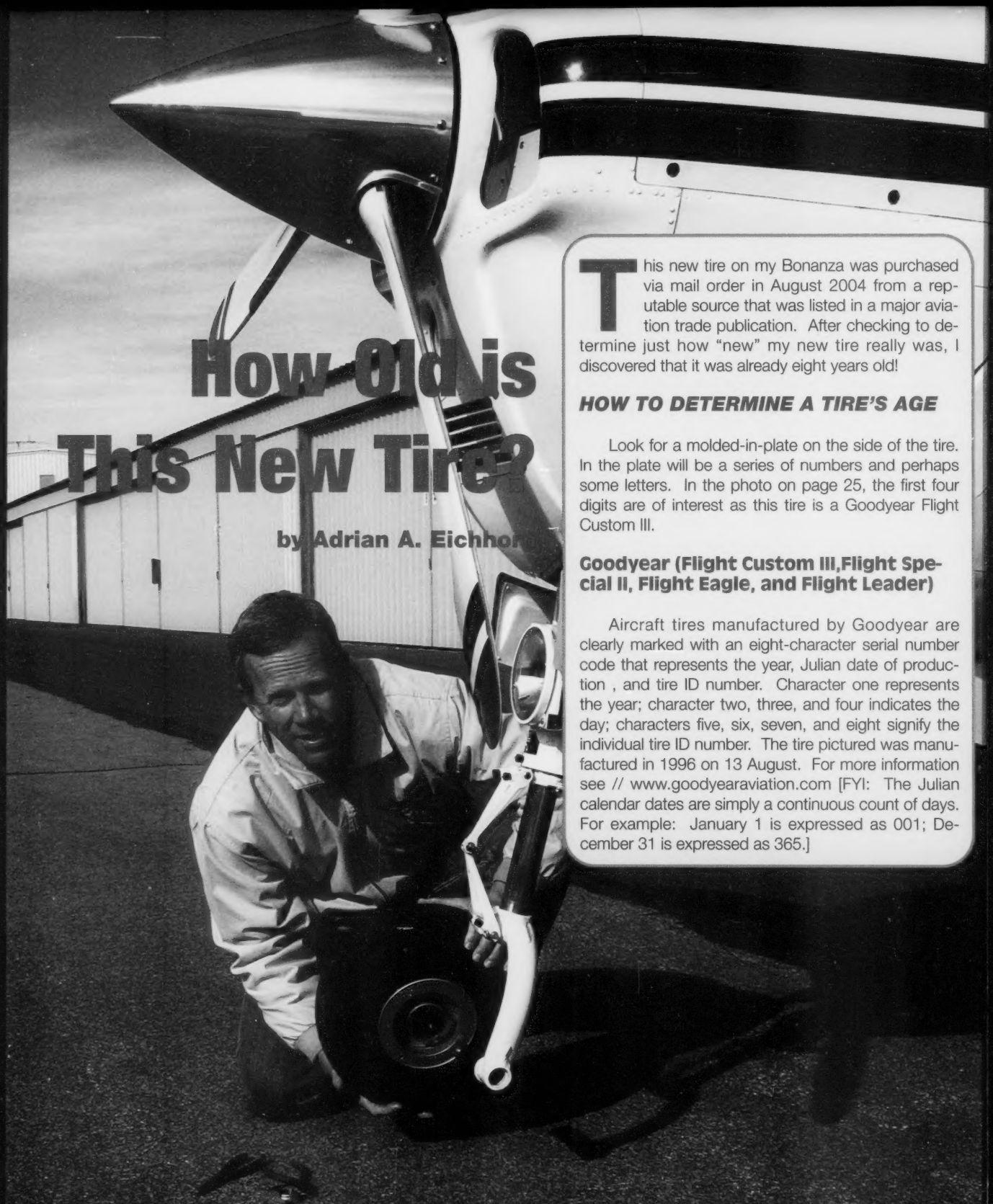
Every incident connected with... the weather is particularly interesting to us who live in a climate of so great extremes.— Henry David Thoreau

For those who also fly in a climate of great extremes, weather will always be a challenge. The members of the GA-JSC will thus continue their individual and collective efforts to develop the technologies, procedures, and products that general aviation pilots need to manage the weather challenge safely.

Susan Parson is a special assistant in FAA's General Aviation and Commercial Division of the Flight Standards Service. She is also an active general aviation pilot and flight instructor.

How Old is This New Tire?

by Adrian A. Eichhorn



This new tire on my Bonanza was purchased via mail order in August 2004 from a reputable source that was listed in a major aviation trade publication. After checking to determine just how "new" my new tire really was, I discovered that it was already eight years old!

HOW TO DETERMINE A TIRE'S AGE

Look for a molded-in-plate on the side of the tire. In the plate will be a series of numbers and perhaps some letters. In the photo on page 25, the first four digits are of interest as this tire is a Goodyear Flight Custom III.

Goodyear (Flight Custom III,Flight Special II, Flight Eagle, and Flight Leader)

Aircraft tires manufactured by Goodyear are clearly marked with an eight-character serial number code that represents the year, Julian date of production , and tire ID number. Character one represents the year; character two, three, and four indicates the day; characters five, six, seven, and eight signify the individual tire ID number. The tire pictured was manufactured in 1996 on 13 August. For more information see // www.goodyearaviation.com [FYI: The Julian calendar dates are simply a continuous count of days. For example: January 1 is expressed as 001; December 31 is expressed as 365.]

McCreary (Superhawk, Airhawk and Airtrack)

McCreary tires are marked with an eleven-digit code. The first four digits identify the McCreary plant number; the next four digits identify the McCreary mold Number (Part No.); the next two digits identify the week of the year and the last digit indicates the year of manufacture. For example: CY8A-B3H6020 (CY8A) is the plant number; (B3H6) is the mold or part number; (02) is the 2d week of the year and (0) for 1990.

Michelin (Air, Aviator and Condor)

Michelin aircraft tires are marked with a ten-digit serial number that also represents the year and Julian date that the tire was produced. Character one represents the last number of the manufacturing year; the next three numbers indicate the Julian day and the remaining six characters are related to decade of production, manufacturing facility and production number. For example; 9211P0025 (9) is for 1999, (211) is the Julian day – 29 July, (P) pertains to the facility and decade, 0025 is a unique production number. For more information see <www.airmichelin.com>.

This barcode and number shows the date of manufacture for this particular tire. Different manufacturers use different coding to show when and where a tire was made. To avoid buying an "old," new tire, pilots should learn how to "read" tires.

Retread tires

Retread tires have the original manufacture date and they are also marked with month and year of retread.

But how do you know if the tire was made in 1999 of 1989? Some tire manufacturers also molded a little triangle into the tire adjacent to the plate with one of the points facing to the left or right. The direction of the triangle gave the decade of the manufacture. Since not every manufacture did this, it is easiest to take a close look at the tire and make an educated guess as to decade of manufacture by the condition of the rubber (e.g. does it look dry and crazed with lots of tiny cracks?). Of course, if the aircraft was made in 1970 and it still has the original tires on it, then the dating is already done for you.

Adrian A Eichhorn removes the nose wheel from his Beechcraft Bonanza *to show the date of the tire's manufacture. When he purchased the tire new, he was surprised to learn the tire was already eight years old. (Jerry Whatley photos)*

Adrian A. Eichhorn is a 7,000-hour pilot for the Federal Aviation Administration. He is based at Ronald Reagan Washington National Airport. He is also a volunteer Aviation Safety Counselor for the Washington Flight Standards District Office and the 2001 National Safety Counselor of The Year. He holds an Airframe & Powerplant certificate with Inspection Authorization (IA).

DID YOU SEE THE UAV?

by Steve Swartz

A friend recently sent me a video clip showing an airborne view of the horizon over an unnamed city. Slowly, in the distance, appears a dot which rapidly grows to an image of an approaching Airbus *A320* with gear and flaps down. It is clearly on approach to an airport behind the video camera. The Airbus fills the field of view, and I await the inevitable collision. At the last minute, the left wing rolls up in an evasive bank. Being a retired American Captain, I was thinking what the Captain might have said to the First Officer (FO). I later learned that the unmanned aerial vehicle (UAV) was a German-built Luna reconnaissance aircraft and the scene was in Afghanistan.

I think most pilots have heard of UAV's, as the term seems to be worming its way into the aviation lexicon. When I was a DC-130 (D for drone launch and control) pilot in Arizona in the early 1970s, nobody wanted much to do with UAV's. Recently, I read General Tommie Franks' book, *American Soldier*, which was full of references to *Predator*, the *Hunter*, the *Shadow*, and the *Global Hawk*, all military UAV's. General Franks, Commander of U.S. Forces in both Iraq and Afghanistan, expressed great reliance on and unbounded enthusiasm for his UAV's and they are clearly vital to the success of the military in the current conflicts.

Just what is a UAV and why should a Cessna 172 pilot care? Well, a UAV is an aircraft, which has no pilot on board. They are as small as a pack of cigarettes (*Black Widow*) or as large as an airliner (*Global Hawk*). Some UAV's can be controlled by a satellite link (*Global Hawk*). A pilot in California can control combat missions in Iraq using the satellite link. Some UAV's are controlled using a line of sight radio link (*Hunter* and *Shadow*) or in an autonomous (preprogrammed route) mode when out of radio range. Some UAV's are actual stick and rudder aircraft (*Predator*) while most of the others are flown through an autopilot. The *Shadow* is highly automated. A soldier with a few weeks of training can fly it.

Thousands of these aircraft are in military service worldwide but, increasingly, we have seen civil UAV's appearing. Some are currently in commercial service earning an income for their operators through aerial photography, crop dusting, and utility surveillance. Incident reports have starting coming in and, in consequence, the Federal Aviation Administration (FAA) has begun to write rules and get involved in UAV operations.

Our Headquarters FAA UAV group consists of just a handful of operations and airworthiness inspectors. We recently visited the Army's Fort Huachuca, Arizona, UAV Center. Soldiers are being trained in Arizona to fly and maintain the *Shadow* and *Hunter* UAV's. I was very impressed with the *Shadow* which is launched from a catapult and auto landed on a very short runway equipped with an arresting wire similar to that on an aircraft carrier. The Army has a system in the *Shadow*, which, can, in a pinch, takeoff and land in zero visibility. The *Hunter* departs and arrives on a runway with the help of a pilot standing beside the touchdown zone. Student pilots at Cochise College in Sierra Vista, Arizona, are sharing the traffic pattern with the *Hunter*. It is only a matter of time before a UAV comes to your local airport.

The FAA UAV group is currently working on a new federal aviation regulation for UAV's that is expected to be announced as a proposed rule in the *Federal Register* this summer. The regulation will provide rules for operating a UAV flown within the pilot's unaided line of sight. The regulation will establish procedures for pilot letters of authorization and medical qualifications and airworthiness certification of the UAV. Although line of sight is just a small part of the UAV world, it is a limited first step. Two additional iterations of the UAV regulation will be published in the next several years as we become smarter on unmanned aircraft.

In the past, military UAV's mostly flew in restricted airspace. However, this is changing. Increasingly, the military wants to fly UAV's in the National Airspace System (NAS). Civil operators fly all of their flights in the NAS. The second version of the UAV regulation will provide for regular flights in the NAS but, for now, all UAV's flying in the NAS require a Certificate of Authorization or Waiver commonly called a COA. This is an FAA document that allows flights in the NAS subject to stringent limitations and on a space available basis determined by the Air Traffic Control organization.

General access by UAV's to the NAS is awaiting solution of a sticky problem. That is the need to see and avoid other traffic. Among the first lessons a pilot learns is the Title 14 Code of Federal Regulations part 91 requirement for visually clearing the flight path ahead for potential conflicting traffic. The UAV cannot perform in this arena so the military, several aero-

Continued on Page 30

FAA/INDUSTRY TRAINING STANDARDS PROGRAM UPDATE by Tom Glista

Over the past year the FAA/Industry Training Standards (FITS) program has grown beyond our expectations. Most of this growth has been driven by industry, not by the FAA or the FITS team. Not only is the aviation industry integrating FITS tenets into its training programs, but the rapid growth of glass cockpits in smaller general aviation airplanes has created a demand to expand FITS training concepts into more industry training programs. Aircraft Training Devices (ATD), what used to be called Personal Computer Aviation Training Devices (PCATD), are improving everyday. Personal computers and the Internet have made distance learning efficient and effective.

When the FITS program started, Cirrus Aircraft Design was the only general aviation aircraft manufacturer offering propeller-driven, single-engine general aviation aircraft with a glass cockpit display (as an option). At that time the Avidyne FlightMax Entegra Integrated Flight Deck was the only system available for this market. Eclipse Aviation was our first jet partner when it proposed to build the first very light jet (VLJ). At that time, the term Technically Advanced Aircraft (TAA) had yet to be coined. Today, the Garmin G1000 system also has been certified for original equipment manufacturers. Now, all the major general aviation aircraft manufacturers either offer a single engine and/or twin-engine aircraft with a glass cockpit. Cessna, Diamond, Mooney, and Beechcraft use the Garmin G-1000. Adam Aircraft, Lancair, and New Piper use the Avidyne Flight Max system. These systems have changed the art and science of operating an airplane.

Piston-powered aircraft are not the only market for glass cockpits. The VLJ market has heated up. Many VLJ manufacturers are also installing these same glass cockpits in their aircraft. Safire (*Safire Jet*), Aviation Technology Group (*Javelin*), and Adam Aircraft (*A700*) are installing Avidyne FlightMax Entegra systems. Cessna plans to install the Garmin G-1000 system in its *Mustang* VLJ.

The FITS team has been working directly with many of these manufacturers (or their chosen training providers) to develop appropriate training programs. Adam, Cirrus, Cessna (its piston line), and Mooney have FITS accepted factory transition training curricula. Cirrus also has a FITS accepted instructor training course. The FITS team is working with Diamond, Lancair, and Aviation Technology Group on their transition training programs. The FITS team just started working with the training branch of United Airlines. United has contracted with Eclipse to provide Eclipse operator initial and recurrent training.

The information on FITS is getting out to other training developers and providers. Middle Tennessee State University (Part 141 Private/Instrument Combined Curriculum), Garmin (GNS 430/530 Training), Aviation Supplies and Academics (Instrument Pilot Trainer and Instrument Refresher: An IPC Simulator), Human Performance Training Institute (HPTI), and 13 piston curricula from AeroTech all have FITS accepted curricula. We have received requests for FITS acceptance from training developers such as, Avionics Training Unlimited, Electronic Flight Solutions, CAP Aviation Consulting Group. We have received request for FITS acceptance from training providers such as Sporty's, Skyline Aeronautics, RWR Pilot Training and Gene Hudson Flight Training. I get phone calls daily from people inquiring about FITS acceptance.

FLIGHT STANDARDS DISTRICT OFFICE INVOLVEMENT

This brings me to some of the things we have been working on for 2005. Our technical team is getting too busy to evaluate every curriculum from a pilot school that requests FITS acceptance. We hope to have guidance this year and FSDO inspectors trained to evaluate a training program and issue FITS acceptance. The FITS team will still work directly with aircraft and avionics manufacturers and suppliers of training information.

QUESTIONS ON FITS

If you are a flight instructor or designated pilot examiner and have not received any official guidance on FITS, you will very soon. If you renew your Flight Instructor Certificate by attending a Flight Instructor Refresher Clinic (FIRC) you will receive information and guidance on FITS along with two System Safety Course Developers Guides. Internet-based FIRCs must provide a link to these documents by May 2005. You can download this information now by going to <http://www.faa.gov/avr/afs/fits/training.cfm> and download the three volumes. All FIRCs must have a fully developed FITS/System Safety module by September 2005.

DEVELOPING FITS PRODUCTS

The FITS team is developing modules for specific audiences. To answer the question of how to develop a course that is FITS compliant, we are developing a FITS Course Developers guide. To answer the question of how do you teach and evaluate the tenets of FITS, we are developing an Instructor's Guide. We are also developing specific FAA Inspector and Designated Examiner guidance on how FAA Inspectors and Designated Examiners can apply FITS while giving practical tests.? We are also developing information on how to transition a pilot from a conventional cockpit to a TAA aircraft. Avionics Training Standards are also being developed.

Most of these guides should be completed and on the FITS web site <www.faa.gov/avr/afs/fits> by the middle of 2005. All new documents go into the "What's New" web page for about six months or longer.

As you can see, the FITS team has been working hard for the past two years, and we have a lot of work still ahead.

Tom Glista is the FAA FITS Program Lead.

Sport Pilot Flight Instructor Privileges, Limits, and Record Keeping Requirements

by Martin Weaver

On July 27, 2004, the FAA Administrator Marion C. Blakey signed the long-awaited Sport Pilot and Light-sport Aircraft rule. The actual regulatory modifications became effective on September 1, 2004. The changes to Title 14 Code of Federal Regulations (14 CFR) part 61 included some modification to existing regulations and the addition of new sections and two new subparts. Pilots and flight instructors who wish to exercise the privileges of a sport pilot and/or sport-pilot flight instructor need to become familiar with these changes. This article will address the new privileges and limitations from a flight instructor view but the information is valid for everyone.

A key piece of information that needs to be understood by all pilots and flight instructors is that 14 CFR sections 61.317 and 61.417 both state that newly certificated pilots at the sport-pilot level will not receive category and class ratings on their certificates. They will receive a certificate with either sport pilot or flight instructor with sport pilot rating. All category and class privileges are accomplished by endorsements in the pilot's logbook or other record. Section 61.51(i)(3) and (5) require sport pilots and sport-pilot flight instructors to carry proof of these endorsements on all flights.

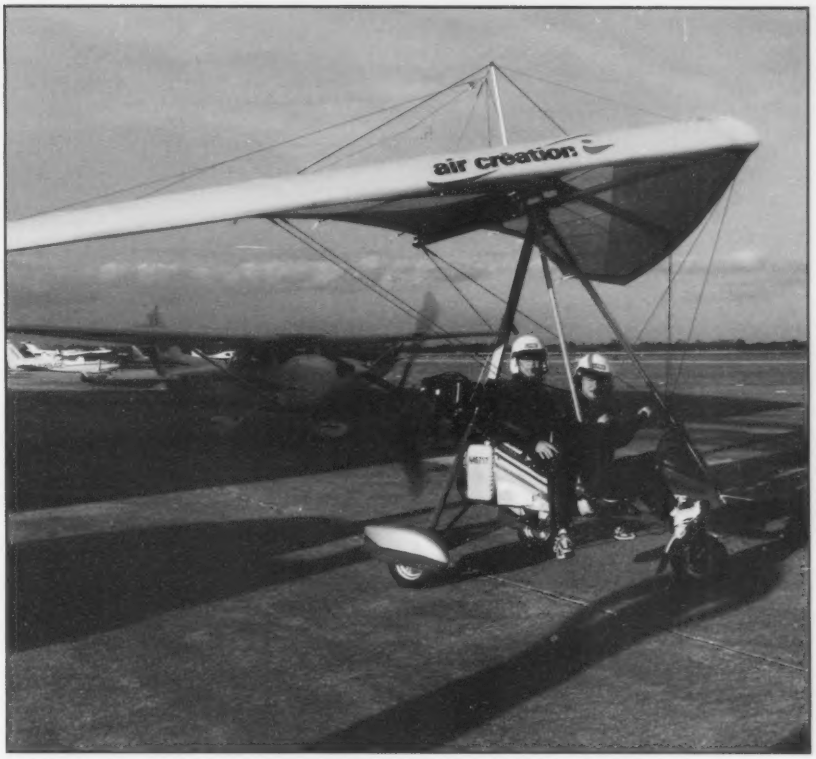
The flight instructor needs to understand that the responsibilities for soloing a sport-pilot student, signing someone off to take a practical test for a sport pilot or sport-pilot flight instructor, or conducting a proficiency check for sport pilot or sport-pilot flight instructor privileges are contained in both the existing regulations and the new two subparts added to part 61. Flight Standards' Light Sport Aviation Branch, located in Oklahoma City, Oklahoma, has posted on its Internet web site <www.afs600.faa.gov> the endorsements needed to comply with the new rules. Flight Standards' General Aviation Commercial Division (AFS-800) is revising the Advisory Circular (AC) 61.65 to incorporate these endorsements.

Flight instructors wishing to conduct sport-pilot training should start with reviewing three important sections in the new 14 CFR part 61, subpart K, Flight Instructors with a Sport Pilot Rating. The first section, 61.413, addresses the privileges of a flight instructor with a sport pilot rating. This section allows for a flight instructor to provide training and logbook endorsements for solo privileges at the sport pilot and sport-pilot flight instructor level; for flight reviews or operating privileges; and for practical and knowledge tests and proficiency checks within the limits of the certificate, rating, and privileges held by the flight instructor. A flight instructor wishing to provide solo privileges for a sport-pilot student needs to review the change made to 14 CFR section 61.89(c), General Limitations for students. This section adds additional limits to a student pilot seeking a sport-pilot certificate. Besides the limitation added in this section, the sport-pilot student would need to meet all of the other solo requirements established in subpart C, Student Pilots. This includes all of the solo endorsements required when acting as pilot in command in solo flight.

The limits of a flight instructor certificate with a sport pilot rating are extensive. Section 61.415 places nine limits on a sport-pilot flight instructor, all of which requires the flight instructor to hold an applicable sport pilot category and class privilege or, if a higher pilot certificate is held, the applicable category and class rating on their pilot and flight instructor certifi-

cates in order to provide instruction. A sport-pilot flight instructor with weight shift control or powered parachute privileges may provide training towards a private pilot certificate only if the instructor holds private pilot in a weight-shift control or powered parachute, as appropriate. Sport-pilot flight instructors are limited to the sport pilot endorsements that they hold as far as airspace and airspeed limits in accordance with sections 61.325 and 327, as appropriate. The sport-pilot flight instructor must have five hours in a make and model within the same set of aircraft in which training is provided. Training must be accomplished in an aircraft with two pilot stations in the same category and class that meets the requirements of 14 CFR section 91.109. A student who wants to fly a single-place aircraft must receive the training in a two pilot station aircraft of the same category and class.

The third important section is 61.423, which contains the record-keeping requirements for a flight instructor with a sport pilot rating. As with all other flight instructor ratings and privileges, flight instructors must retain a record for three years of the training and endorsements that they provide while exercising their flight instructor certificate. A new requirement that is unique to the sport-pilot level is the ability of a flight instructor to administer a proficiency check to a pilot or another flight instructor when adding privileges to an existing pilot certificate. Section 61.423(b) requires that the flight instructor submit to the FAA Airman Certification Branch (AFS-760) the airman application within 10 days after providing an endorsement for a person to operate or provide training in an additional category and class of light-sport aircraft. The application to be used is FAA Form 8710-11, Airman Certificate and/or Rating Application – Sport Pilot. This new application form is the only form used for proficiency check documentation. The flight instructor conducting the proficiency check must review the information the applicant provides on the front of the application for accuracy. After the proficiency check is completed, the flight instructor now must complete the information in the Proficiency Check – Instructors Record on the back of the form. Additionally, the flight instructor is required to complete an endorsement in accordance with section 61.413(i) in the airman's logbook or flight record.



Martin Weaver (Left), Manager of the Flight Standards Light Sport Aviation Branch (LSAB), AFS-610, gave the first practical test to Larry Clymer, operations inspector LSAB, adding a Weight-Shift Control rating at the private pilot certificate level and the authority to conduct Sport-pilot Flight Instructor privileges in weight-shift control aircraft.

One of the most popular questions the Light Sport Aviation Branch receives is from current flight instructors certified under subpart F of part 61. They want to know if they can instruct a sport pilot. The answer to this question is found in section 61.429. If you want to instruct a sport-pilot student, provide instruction for someone wanting to add a privilege at the sport pilot or sport-pilot flight instructor level or conduct a proficiency check, you may do so without further showing of proficiency as long as you hold a category and class rating listed on your flight instructor certificate and comply with the privileges, limits, and record keeping requirements of 14 CFR sections 61.413, 61.415 and 61.423. If you want to add privileges to your existing certificate to instruct at the sport-pilot level you must comply with section 61.419.

An important regulation that answers many questions concerning what is required to operate a light-sport aircraft can be answered in section 61.303. The table on page 31 provides valuable information concerning whether you hold a medical certificate, a U.S. driver's license, or neither of these documents. An example from this table would be if I hold a private pilot certificate without a current medical and I want to fly an aircraft defined as light sport. The first place to look is item 2 "Only a driver's license." Then I slide right to the next column labeled "And you hold" and

item (ii) answers the question that, I hold at least a recreational pilot certificate. I move to the third column and it tells me that I can operate any light sport aircraft in that category and class that I hold a rating for on my certificate. The last column on the right tells me that I do not need to hold any endorsements required by this subpart, but I must comply with section 61.315. The endorsements this is referring to are those listed in sections 61.319, 61.325 or 61.327.

The new regulations will require the flight instructor wanting to get involved in the sport pilot program to do some serious studying, whether certificated under subpart H or subpart K. There are a few similarities between the privileges, limitations, and record keeping requirements, but there is enough difference that time and effort needs to be made to make sure the correct endorsements are being made and the student or certificated pilot is properly prepared to operate under the new set of rules. Professional flight instructors are always on the move to further their education. The Light Sport Aviation Branch is ready to assist the flight instructor in this transition. The branch can be contacted by e-mailing <afs610comments@faa.gov>, by calling 405-954-6400, or by writing AFS-610, P.O. Box 25082, Oklahoma City, OK 73125.

Martin Weaver is the Manager of the Flight Standards' Light Sport Aviation Branch, AFS-610.

Sport Pilot Flight Instructor Examiners

The Light Sport Aviation Branch is proud to announce that the first eight Sport Pilot Flight Instructor Examiners were appointed on January 22 in Sebring, Florida. All of these newly appointed sport-pilot examiners completed initial sport pilot and sport-pilot flight instructor evaluations during the course. They also put in many hours studying the new regulations, practical test standards, and examiner handbook. They are a credit to the light sport aviation community. We also received valuable feedback from these newly appointed examiners in helping to make the course an effective tool in preparing future examiners for their responsibilities.

For the most current listing of Sport Pilot Flight Instructor Examiners, check the Light Sport Aviation Branch web site at <http://afs600.faa.gov/ afs610-Examiners.htm>.

DID YOU SEE THE UAV?

Continued From Page 26

space companies, and NASA are all working to develop a piece of avionics which can do the detect, sense, and avoid task. Notice the change in wording from see to detect. Many technologies are being studied, but the one selected will be an all weather system, which is small, inexpensive to buy, very light, and with reasonable power requirements. This is something general aviation could also use to help avoid other aircraft.

One more hangar (or control shelter) story before I let you put down this article. This story is about the *Predator* deployment last summer to King Salmon, Alaska. The Coast Guard is very interested in using UAV's for fisheries enforcement, coastal patrols, and pipeline patrol for the Department of Homeland Security. The *Mariner* variant of the *Predator* has a 30-hour range and can carry a variety of sensors all controlled by satellite relay. Last summer's demonstration included a deployment from an airfield in California south of Edwards Air Force Base to King Salmon, Alaska, a busy general aviation airport. The *Mariner* flew nonstop to Alaska and then flew three weeks of missions with great success. A bonus fire-spotting mission near Fairbanks rounded out quite a stellar performance. Integrating the UAV with King Salmon bush pilots was accomplished without incident.

The UAV business is growing briskly. You should be able to get a UAV endorsement on your ticket within two years. Who would have thought?

Steve Swartz is an FAA Aviation Safety Inspector with Flight Standards Service's Flight Technology Requirements Branch. He is also a retired American Airlines Captain and retired Lt Colonel, USAF. He is a graduate of the U.S. Air Force Academy and George Washington University.

If you hold	And you hold	Then you may operate	And
(1) A medical certificate,	(i) A sport pilot certificate,	(A) Any light sport aircraft for which you hold the endorsements required for its category, class, make, and model,	(1) You must hold any other endorsements required by this subpart and comply with the limitations in 14 CFR §61.315.
	(ii) At least a recreational pilot certificate with a category and class rating,	(A) Any light sport aircraft in that category and class,	(1) You do not have to hold any of the endorsements required by this subpart, nor do you have to comply with the limitations in 14 CFR §61.315.
	(iii) At least a recreational pilot certificate, but not a rating for the category and class of light sport aircraft you operate,	(A) That light sport aircraft, only if you hold the endorsements required in 14 CFR §61.321 for its category and class,	(1) You must comply with the limitations in 14 CFR §61.315, except §61.315 (c)(14) and, if a private pilot or higher, §61.315 (c)(7)

If you hold	And you hold	Then you may operate	And
(2) Only a U.S. driver's license,	(i) A sport pilot certificate,	(A) Any light sport aircraft for which you hold the endorsements required for its category, class, make, and model,	(1) You must hold any other endorsements required by this subpart and comply with the limitations in 14 CFR §61.315.
	(ii) At least a recreational pilot certificate with a category and class rating,	(A) Any light sport aircraft in that category and class,	(1) You do not have to hold any of the endorsements required by this subpart, but you must comply with the limitations in 14 CFR §61.315.
	(iii) At least a recreational pilot certificate, but not a rating for the category and class of light-sport aircraft you operate,	(A) That light sport aircraft, only if you hold the endorsements required in 14 CFR §61.321 for its category and class,	(1) You must comply with the limitations in 14 CFR §61.315, except §61.315 (c)(14) and, if a private pilot or higher, §61.315 (c)(7).

If you hold	And you hold	Then you may operate	And
(3) Neither a medical certificate nor a U.S. driver's license,	(i) A sport pilot certificate,	(A) Only a light sport glider or balloon for which you hold the endorsements required for its category, class, make, and model,	(1) You must hold any other endorsements required by this subpart and comply with the limitations in 14 CFR §61.315.
	(ii) At least a private pilot certificate with a category and class rating for glider or balloon,	(A) Only a light sport glider or balloon in that category and class,	(1) You do not have to hold any of the endorsements required by this subpart, but you must comply with the limitations in 14 CFR §61.315.
	(iii) At least a private pilot certificate, but not a rating for glider or balloon,	(A) Only a light sport glider or balloon, if you hold the endorsements required in 14 CFR §61.321 for its category and class,	(1) You must comply with the limitations in 14 CFR §61.315, except §61.315 (c)(14) and, if a private pilot or higher, §61.315 (c)(7).

Aviation Maintenance Alerts

Gordan Gilbert from *Aviation International News* called regarding the Double Engine Flameout BE-400 article in the January/February *FAA Aviation News*. He said he has been tracking this story because of the double flame out. His interest proves that people read the *Alerts*' section. We let the *Alerts*' manager know and here is his reply. —Editor.

Thanks for the compliment! However, this excellent article was printed in the *Aviation Maintenance Alerts*, AC 43-16A as received from its author, Sergio Perez. Mr. Perez is an Aviation Safety Inspector (ASI) in the Rochester, New York, Flight Standards District Office (AEA-FSDO-23). Mr. Perez worked effectively with his office manager, his assigned operator (who submitted a SDR), and the National Transportation Safety Board (who investigated this incident) to gather additional information for this article. This information was compiled in a memorandum from Mr. David Bowden, the AEA-FSDO-23 manager and forwarded to the Aviation Data Systems Branch, AFS-620 for publication in the *Alerts*.

I will also extend your compliment to Scott Guidry and Brian Ayers, who are our contract airworthiness specialists who assist us in processing Service Difficulty Reporting System (SDRS) and Accident/Incident Data System (AIDS) reports. These two employees did an outstanding job of directly assisting us with the preparation of the Alerts from June 2004 to November 2004. The *Double Engine Flameout BE-400* article was first published in the October 2004 issue of the *Alerts*.

We often receive verbal feedback from mechanics and ASIs who express their appreciation for our work. However, it is gratifying to hear that the collaboration between AFS-805 and AFS-620 that was started about two years ago to provide the Regulatory Support Division, AFS-600 with a regular presence in the enormously successful *FAA Aviation News* has had the desired effect of further educating the FAA and the public regarding the various types of safety related product and services that we provide. We appreciate your continued support!

The *Alerts* helps the FAA communicate with our internal and external customers regarding aircraft in-service problems. Therefore, your comments regarding the *Aviation International News*'s interest in this article also helps validate the effectiveness of the Flight Standards' Service Difficulty Program. The objective of this program is "to achieve prompt and appropriate correction of conditions adversely affecting continued airworthiness of aeronautical products." However, it would not be successful without the commitment to safety that is continually demonstrated by the aviation community (i.e., mechanics, pilots, air operators, and air agencies) that submit SDRs; the ASIs who work directly with the public to help resolve maintenance and inspection related issues that are identified in these reports; and our FAA Aircraft Certification Offices (ACOs) that promptly provide AFS-620 with design related information notices that we share with the public. These notices in most cases are derived from the ACO's analysis of the SDRs that are submitted by the public.

John E. Jackson, ASI, AFS-620
Accident/Incident Data System (AIDS) and
Service Difficulty Reporting System (SDRS)
Database Program Manager

Cessna; 172S; Cracked Spinner Bulkheads; ATA 6113

A 100-hour inspection revealed four (of six) cracked boltholes in the propeller spinner bulkhead (P/N 0552231-1). The mechanic suspects current propeller bolt torque values induce too much stress for the through-holes as bulkhead metal is formed into the chamfered area of the propeller bolt passages during torque. His suggested correction would be a part redesign and/or heavier material for bulkhead manufacture. (This month's SDRS submissions include identical defects in four additional 172's. They will be added to the SDRS data base, which then will reflect an approximate 37 records of this model 172 aircraft defect since 1995.)

Part Total Time: 96.6 hours.

Cessna; U206G; Stuck Starter Contactor; ATA 8012

This mechanic describes how some Cessna starter contactors (P/N S2443-2) have failed to "release" after engine start. Although this aircraft is equipped with a "starter engaged" warning light, it was not detectable after initial engine start, possibly related to low engine RPM having little alternator output to the bus. Continuous contactor connection destroys both the contactor and the starter.

"Continental has begun supplying a compact, lightweight starter (P/N 655566F24V by Iskra) on new engines," states the mechanic. "This aircraft had a factory new engine installed 42 hours prior to this event. It would be the first lightweight starter installed on this aircraft. Our investigation indicates the lightweight starters have a higher current draw than the larger starter used previously. We suspect the Cessna contactor cannot handle the load. For the present we will probably replace the starter contactors at each engine change to see if that will help avoid this problem."

(The submitter includes two additional reports describing the same stuck-starter occurrences on the same type aircraft having the same part numbers. These will be included in the SDR database.)

Part total time: 7616 hours.

Learjet; 35A; Loss of Landing Gear Hydraulic Pressure; ATA 3230

The flightcrew reported aircraft gear extension took longer than normal, but "down and locked" was achieved. Moments later all hydraulic pressure was gone. A safe landing was made using emergency brake pressure. Gear swings under maintenance scrutiny revealed a pinhole in the L/H spoiler-down line (P/N 26007003-375) located in the top center wing section. Corrosion is suspected as the probable cause.

Part total time: 7993.7 hours.

Service Difficulty Report Data

Sorted by aircraft make and model then engine make and model. This report derives from unverified information submitted by the aviation community without FAA review for accuracy.

Control Number	Aircraft Make	Engine Make	Component Make	Part Name	Part Condition
Difficulty Date	Aircraft Model	Engine Model	Component Model	Part Number	Part Location
CEV200400001			EAAEROMARINE	BATTERY	BURST
11/9/2004			DKE35L8		VEST LIGHT

DURING THE YEARLY INSPECTION OF THE LIFE VEST, THE WATER ACTIVATED BATTERY FOR THE LOCATING LIGHT HAD EXPANDED AND BURST OPEN. THIS MADE THE LIGHT INOPERABLE. ACCORDING TO THE EAM SERVICE INFORMATION SIL-25-104 , THIS VEST COULD HAVE AN INSPECTION INTERVAL OF FIVE YEARS, WHICH MEANT THE LIGHT COULD HAVE BEEN INOPERATIVE FOR FOUR YEARS. REPLACED THIS BATTERY/LIGHT ASSY WITH A DIFFERENT MANUFACTURER'S BATTERY/LIGHT ASSY.

CA041109002	BAG	GARRIT	DUCT	CONTAMINATED
10/24/2004	JETSTM3101	TPE3311OU	1379219L401	CABIN HEAT

AFTER T/O CREW ADJUSTED TEMP CONTROL TO WARM UP CABIN. SHORTLY AFTER, CABIN STARTS TO FILL WITH SMOKE. TEMP WAS REDUCED, ATC NOTIFIED OF PROBLEM, QRH DRILL FOLLOWED. SMOKE CLEARED, A/C LANDED BACK IN 4 MM WITHOUT INCIDENT. MX INSPECTION REVEALED, INSULATION ON THE UNDERSIDE OF HEAT DUCT BENEATH FLOOR HAD ABSORBED HYD FLUID FROM A PREVIOUS HYD LEAK. TEMP INCREASE WITHIN DUCTING CAUSED OIL SOAKED INSULATION TO EMIT A HAZE OR SMOKE CONDITION. HEAT DUCT WAS REPLACED AND FUNCTION TEST SERVICEABLE.

The Aviation Maintenance Alerts provide a common communication channel through which the aviation community can economically interchange service experience and thereby cooperate in the improvement of aeronautical product durability, reliability, and safety. This publication is prepared from information submitted by those who operate and maintain civil aeronautical products and can be found on the Web at <http://www.faa.gov/avr/afs>. Click on "Maintenance Alerts" under Regulations and Guidance. The monthly contents include items that have been reported as significant, but which have not been evaluated fully by the time the material went to press. As additional facts such as cause and corrective action are identified, the data will be published in subsequent issues of the Alerts. This procedure gives Alerts' readers prompt notice of conditions reported via Malfunction or Defect Reports, Service Difficulty Reports, and Maintenance Difficulty Reports. Your comments and suggestions for improvement are always welcome. Send to: FAA; ATTN: Aviation Data Systems Branch (AFS-620); P.O. Box 25082; Oklahoma City, OK 73125-5029.

• PA Aviating

Would like to know if the State of Pennsylvania is in the United States? It appears the *FAA Aviation News* magazine never has news of our state. You cover mostly western and south central states of the U.S.. Thank You!

George Pothering
via Internet

If I understand your question, yes, Pennsylvania is part of the United States. If you are asking why we have not published any articles about activities within Pennsylvania recently, the answer is simple. No one has submitted any articles or story ideas to us for consideration recently. We have published articles about aviation activities in the state. Two that come to mind were a parachute riggers school article and one about gliders.

I hope I have answered your question.

FAA AVIATION NEWS welcomes comments. We may edit letters for style and/or length. If we have more than one letter on the same topic, we will select one representative letter to publish. Because of our publishing schedules, responses may not appear for several issues. We do not print anonymous letters, but we do withhold names or send personal replies upon request. Readers are reminded that questions dealing with immediate FAA operational issues should be referred to their local Flight Standards District Office or Air Traffic facility. Send letters to H. Dean Chamberlain, Editor, FAA AVIATION NEWS, AFS-805, 800 Independence Ave., SW, Washington, DC 20591, or FAX them to (202) 267-9463; e-mail address:

Dean.Chamberlain@faa.gov

• Web site Question

Just got my September/October issue, which I always read as soon as it arrives. I was going to send the "Who's In Command Here, Anyway?" article to friends on the west coast, when I realized that the web page doesn't have that article this month. Why not?

As a CFI/CFII, I'd like to pass the material along as a reminder of PIC authority and responsibility. Thanks.

R. Terence Mueller
via Internet

In the past, our policy was not to include the complete magazine on the web site. However, in the January/ February magazine, I discussed this issue and explain what we are going to do about it. You are now able to see the entire magazine on the web.

• Empty Nest

As always, I look forward to receiving *FAA Aviation News*, and typically look at the cover photos prior to reading the magazine cover to cover.

Great photo of *White Knight* on the back cover of the Jan/Feb issue, but it appears (unless Rutan and company have mastered stealth space flight, too) that *SpaceShipOne* is not in the photo as the credit states. The rack that holds the 'payload' appears empty.

Great magazine, great photo, minor error!

Eric Treland
via Internet

You are right. The nest is empty. Thank you for catching our error. We had it right in the November-December issue.

By the way, Burt Rutan and the SpaceShipOne team were named the winners of the 2004 Robert J. Collier Trophy by the National Aeronautic Association (NAA).

• Circling Approaches

Great job on the magazine. I've been reading it for 30+ years and continue to enjoy it.

Regarding Michael Brown's circling approach article in the January /February issue, his defense of the circling approach based on the number of approaches featuring circling minimums doesn't address the safety aspects of this means of terminating an instrument approach. A more telling fact is that many airlines only permit circling approaches to VFR minimums and some prohibit them at night. There may be a lesson here. Further, the single-pilot runs a high risk of spatial disorientation and vertigo on a minimums circling approach — been there, done that.

Setting personal limits is very important for the general aviation pilot, especially those who are not regularly exposed to a hard IMC environment. Consider restricting your circling approach practices.

John J. Sheehan
Professional Aviation Inc.

You raise some good points. However, it should be noted that the purpose of the article was to explain our policy concerning IPCs and the use of flight training devices. The closing paragraph was only intended to illustrate the relevance of the subject material as it relates to flight training and instrument currency. Lessons concerning when, if, and how to circle are all very valid, but they go beyond the intended scope of the article.

TSA OPENS "MARYLAND THREE" AIRPORTS TO TRANSIENT AIRCRAFT OPERATORS

The Transportation Security Administration (TSA) announced it will assume responsibility for ground security requirements and procedures at three general aviation (GA) airports located within the Washington, D.C., Metropolitan Area Flight Restricted Zone. Under TSA's interim final rule, transient operations will now be allowed to resume at the three airports. The three are College Park Airport, Potomac Airfield and Washington Executive/Hyde Field—commonly referred to as the "Maryland Three" airports.

"Increased access and enhanced security are powerful components of TSA's strategy for these three airports," said Rear Adm. David M. Stone, USN (Ret.), Assistant Secretary of Homeland Security for TSA. "We remain grateful for the close partnership that TSA enjoys with the GA community."

The new rule, which was created specifically for the Maryland Three airports due to their location within the Washington, D.C., Metropolitan Area Flight Restricted Zone, takes into consideration the special security needs of the airports. The rule also grants access to pilots not based out of the Maryland Three airports, which was previously restricted under FAA regulations. Transient pilots will be able to access the airports if they comply with TSA-mandated security requirements and procedures. As a result, the airports will be able to accommodate more travelers and business while maintaining an appropriate level of security.

This latest initiative is one of numerous measures developed to enhance security of the GA industry. Other GA security initiatives include a toll free hotline for pilots to report suspicious activities at airports, a set of federally endorsed security guidelines for GA facilities, vetting of alien flight training candidates before they begin training, and security-enhanced pilot credentials.

The toll free hotline for GA pilots is (866) GA-SECUR (427-3287).

FAA DOUBLES CAPACITY AT HIGH ALTITUDES

On January 20, the nation's high altitude airspace got a much needed boost in capacity that will save airlines more than an estimated $5 billion over the next decade in fuel costs. The FAA doubled the airspace routes between 29,000 feet and 41,000 feet by spacing aircraft a thousand feet apart instead of 2,000. Increasing available high altitude routes gives pilots and air traffic controllers more choices so that aircraft can fly more direct routes at the most fuel-efficient altitudes, saving time and money for airlines and travelers alike.

"When you save fuel, you save money: it's that simple and more efficient routes save the passenger time," said FAA Administrator Marion C. Blakey. "We're adding airspace routes, increasing capacity and maintaining the same high level of safety all at the same time. We're switching over on-time and at just the right time."

The procedure, invisible to passengers, is called Reduced Vertical Separation Minimum (RVSM) and can add capacity safely because most aircraft are now equipped with advanced, more precise dual altimeter systems and autopilots. The horizontal separation of aircraft in high altitude airspace remains at five-plus miles.

RVSM has been implemented safely over the last seven years in less complex airspace from Europe to Australia and over most of the North Atlantic and Pacific Oceans. In order for commercial airlines and other aviation users to take advantage of RVSM, the FAA must determine that aircraft are properly equipped and authorize operators to fly. The FAA will closely monitor high-altitude flying at its air traffic control enroute centers to ensure a safe transition to RVSM.

In the summer of 2003, the FAA estimated that RVSM would save airlines and other aircraft operators $5.3 billion from now through 2016. The increase in the cost of jet fuel since then makes the estimated savings conservative. The FAA estimated the cost of implementing RVSM to be $869 million, mostly due to re-equipping older aircraft.

In October 2003, the FAA issued its final rule on implementing RVSM. Last September, the FAA met with Canadian, Mexican, Caribbean and South American civil aviation authorities and agreed to proceed with implementation. As a result, all Western Hemisphere countries converted to RVSM simultaneously on January 20.

FAA SIGNS STAR AVIATOR TO PROMOTE AEROSPACE CAREERS

On February 2, FAA joined forces with the youngest air show performer in the country to promote career opportunities in aviation and aerospace.

The partnership with 20-year-old Jamail Larkins was recognized in a signing ceremony with FAA Administrator Marion C. Blakey at the FAA's Washington, DC, headquarters.

"We want to show the youth of America that they can dream big dreams, and they can start right now," said Blakey. "Jamail didn't wait for his career in aviation to take off: He took off with it."

"Ever since I experienced the thrill of flight, it's been a goal of mine to inspire others of all ages to realize the great opportunities in aviation and aerospace," said Larkins. "I am very honored to team with the FAA in sharing my experience and attracting new people to the exciting world of aviation."

Larkins will work with the FAA's educational outreach initiatives throughout the country to attract chil-

dren and young adults to aviation careers. Last year, the FAA was involved in nearly a thousand programs that reached more than 200,000 students nationwide.

Through a variety of partnerships with academia, civic organizations, the aviation industry, and local communities, the FAA provides aviation education camps, career expos, public speakers, classroom assistance, and career guidance. A powerful and charismatic speaker, Larkins will address several of these education venues about his personal experience and the rewards of pursuing an aviation career.

Larkins is a business major at Embry-Riddle Aeronautical University in Daytona Beach, Florida. When he was just 12, Larkins flew for the first time, taking a familiarization flight with the Experimental Aircraft Association's (EAA) Young Eagles Program. Two years later in Canada, he became one of the youngest pilots to solo a powered aircraft, and followed that feat shortly by becoming the first and youngest student pilot in the U.S. to solo a Cirrus SR20. Larkins has accumulated more than 550 hours of flight time in more than 36 different aircraft.

Larkins serves as spokesman for both the EAA Vision of Eagles Program, a youth education initiative of the EAA Aviation Foundation, and Careers in Aviation, a non-profit organization that promotes and provides aviation opportunities to youth.

More details on the FAA's Aviation and Space Education Outreach Program can be found at <www.faa.gov/education>.

LOCKHEED MARTIN TO OPERATE AFSS

On February 1, the FAA announced it has selected a team headed by Lockheed Martin to provide services now offered by the agency's automated flight service stations (AFSS). The total evaluated cost of the five-year contract, with five additional option years, is $1.9 billion and represents estimated savings of $2.2 billion over the next ten years.

The FAA selected Lockheed Martin, based in Bethesda, Maryland, for its demonstrated ability to deliver high-quality safety and services and technical excellence at a competitive cost while providing a seamless transition to new operations. Under continued FAA oversight, Lockheed Martin will operate flight service stations to the agency's strict safety and service requirements.

Approximately 2,500 FAA employees now provide services at 58 automated flight service stations in the contiguous 48 states, Hawaii and Puerto Rico (Alaska excluded). Flight service specialists provide a variety of services, including weather briefings, inflight radio communications, flight planning and search-and-rescue support, primarily to private and non- airline commercial pilots. These specialists do not separate or control aircraft.

Studies by the FAA and the Department of Transportation's Inspector General identified significant potential cost savings among automated flight service stations. FAA spending on flight service operations totaled about $500 million in fiscal year 2003. Of these total operating costs, only $60 million was offset by federal fuel taxes collected from general aviation. Additionally, many automated flight service stations contain outmoded equipment, are in need of upgraded technology and are housed in deteriorating buildings.

After completing a careful review, the FAA formally announced in December 2003 that its flight service stations met the criteria for competitive sourcing and that it would conduct a competition under the Office of Management and Budget's Circular A-76 guidelines for an improved way to provide flight service operations.

The FAA evaluated five competing service providers, including the incumbent government organization, on the best value to the government for the delivery of effective services to support safe and efficient flight. The FAA required each potential service provider to demonstrate savings of almost $1 billion over ten years.

Lockheed Martin will assume operations in October of this year. Incremental consolidation of the 58 current flight service stations will begin in April 2006 and is expected to result in 20 sites by the end of March 2007. More information on the results of the competition is at <www.faa.gov/aca>.

LASER AC NOW AVAILABLE

Advisory Circular 70-2, Reporting of Laser Illumination of Aircraft, is now available on the FAA Internet web site <http://www.airweb.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.nsf>. This AC is in response to the recent, increasing incidents of unauthorized illumination of aircraft by lasers, as well as the proliferation and increasing sophistication of laser devices available to the general public and other parties. FAA and other governmental studies indicate that the exposure of aircrews to laser illumination may cause hazardous effects (e.g., distraction, glare, afterimage flash blindness, and, in extreme circumstances, persistent or permanent visual impairment), which could adversely affect the ability of aircrews to carry out their responsibilities.

This AC provides information to the aviation community, particularly aircrews, operating within the National Airspace System (NAS) regarding steps taken by the FAA to address the unauthorized illumination of aircraft by lasers. It also provides guidance to aircrews on the reporting of laser illumination incidents and recommended mitigation actions to be taken in order to ensure continued safe and orderly flight operations.

Editor's Runway

from the pen of H. Dean Chamberlain

It Has Been A Long Winter

Life is looking a little brighter these days. After months of coming to work in the dark and going home in the dark, I can now see the sun starting to sneak over the horizon and light the sky east of Washington as I commute into the city. Then when I leave, I am no longer leaving in the black of night like I did a month or so ago. In another month, spring begins. Summer can't be far off. Which brings me to my favorite subject: Proficiency flying.

Over the years, at various times, I can confess to being a ratings and "WINGS" junkie. Just to increase my flying knowledge and flight skills over the years, I took additional training to learn how to fly an aircraft with more than one engine as well as learn how to fly an aircraft without an engine. In the middle of all of this, I managed to learn how to land on water. I even started to learn how to fly a helicopter until financial reality won out over ego. That reality was lost when I bought an old aircraft of my own. Now I have no finances or ego. But that is another story.

One of the benefits of all of this training was the ability to complete 10 phases of the FAA's Pilot Proficiency Awards program better known as the "WINGS" program. Somewhere along the way, I even added a SEA WINGS certificate to the list. I think the WINGS program is one of the most important programs in the FAA. All pilots are required to maintain a certain level of proficiency and currency to act as pilot in command. Pilots must complete certain requirements such as the specified number and type of takeoffs and landings as outlined in Title 14 Code of Federal Regulations section 61.57, Recent flight experience: Pilot in command, as well as completing the required flight review listed in 14 CFR section 61.56, Flight review. The WINGS program allows pilots to maintain this currency while earning their various WINGS phases. What makes this even better is that you have to fly with a certificated flight instructor and attend an FAA-recognized safety meeting to meet the ground safety requirement of the WINGS program.

All of which brings me in a very round about way, to what I have begun calling the Rites of Spring. This is the need for those of us who may be a little rusty in the flight skills department to do some recurrency flying before we take our friends up for that first flight of the new flying year. Even pilots who have been flying throughout the winter can benefit with a little flight training with a flight instructor. Call it an early flight review or, better yet, add a new rating, aircraft category or class, an instrument rating, or upgrade your certificate level, but do something fun to fly with an instructor you have never flown with for a critical review of your flight skills. An aircraft mechanic who I respect told me it is wise to have someone different do the required annual inspection on my old airplane periodically because we all are creatures of habit. He said each mechanic has a certain way to inspect an aircraft. That particular way may emphasis one aspect of the inspection while minimizing another area. By periodically having a different person doing the inspection, he said you gain the benefit of having two experts looking at all aspects of the aircraft with a critical eye for everything. The same can be said about taking a flight review or training with a different flight instructor. Having flown with many different flight instructors over the years, I can attest to the fact I have learned something different from each. So can you.

As you start out this new flying season, think about what you can do to add a little excitement and challenge to your flying. It can be as simple as a checkout in a different type aircraft to adding a new rating. Seaplanes are fun for example. A great way to "learn" how to fly again is to add a glider rating to your powered airplane certificate. For certificated airplane pilots, an add-on glider rating is relatively simple. But what a glider rating will teach you in basic piloting skills is beyond measure. Learning how to follow your tow plane while attached to a 200-foot line improves your coordination. Learning the importance of coordinated flight might be the difference between being able to climb in weak lift or losing precious altitude. Gliders teach basic stick and rudder skills while making you think ahead about the next thermal needed for lift or when it is time to shoot home for a normal on-field landing. If you have grown up behind the sounds of an aircraft engine, the silence of a non-motorized glider can be deafening.

The challenge of the Rites of Spring is there for you to meet. How you meet it is up to you, but I encourage you to add some spice to your flying this spring by trying something new. You will be glad you did. And the FAA will be glad you did too because training not only makes you a better pilot, but it can make you a safer pilot. Just watch out for those temporary flight restrictions that can pop up like dandelions in the most unwelcome places. Have a great summer of flying.

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